

# **FEDERAL AGENCIES**

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## Comment Letters

# Public Comment Card

Soda Mountain Solar Project



Commentor Name: Stephanie Dubois Date: 1/8/14

Address: Mojave National Preserve

Comment: 2701 Baustow Rd  
Baustow CA 92342

Please identify Mojave National Preserve  
on the project maps & documents.

Thank you.

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:

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# United States Department of the Interior

## NATIONAL PARK SERVICE

Mojave National Preserve  
2701 Barstow Road  
Barstow, California 92311



IN REPLY REFER TO:

1.A.2 Permanent (Formerly N22) (MOJA)

March 3, 2014

### Memorandum

To: BLM Project Manager, Proposed Soda Mountain Solar Project  
Bureau of Land Management, California Desert District

From: Stephanie R. Dubois, Superintendent, Mojave National Preserve *Stephan R Dubois*

Subject: Draft Soda Mountain Solar Project Plan Amendment/Environmental Impact  
Statement/Environmental Impact Report CACA049584/LLCAD0800

The National Park Service (NPS) appreciates the opportunity to comment on the Draft Plan Amendment to the California Desert Conservation Area Plan, Draft Environmental Impact Statement and Environmental Impact Report (DEIS/DEIR) for the Soda Mountain Solar Project. The NPS supports renewable energy projects on public lands that are constructed and operated in an environmentally responsible manner, serve the public interest, and protect the natural and cultural resources and treasured landscapes of the American people. We have reviewed the Bureau of Land Management (BLM) document, "A Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners," and we have studied our responsibilities as a cooperating agency on this project. While we recognize the differences between the NPS and BLM missions, we must also, as sister bureaus in the Department of the Interior, actively share pertinent information and expertise.

We have organized our comments on the DEIS/DEIR in accordance with our responsibilities as a cooperating agency. They identify several resource concerns presented by this project and encourage meaningful mitigation strategies to address these significant adverse impacts to the cultural and natural resources of Mojave National Preserve.

### General Comments

The BLM identifies the purpose and need for this action as a response to the Applicant's application, where the Applicant has defined the needs and objectives of the Soda Mountain Solar Project (hereafter referred to as the project). The DEIS/DEIR has accurately analyzed some of the project's environmental impacts for Alternatives A through F, namely:

- Maximum daily construction-related emissions would exceed Mojave Desert Air Quality Management District (MDAQMD) thresholds. These include nitrous oxide (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter less than 10 micrometers in diameter, also known as coarse dust particles (PM<sub>10</sub>). Construction would generate air pollutants that could contribute to an air quality violation.
- The project would disturb 2,456 acres of vegetation and habitat for a period of at least 30 years, with full restoration requiring a much longer time frame in this arid environment.
- The project would have significant adverse impacts to the natural topography, hydrology, native plant communities, and special-status plants.



- The project would have significant adverse direct and indirect impacts on desert tortoise and long-term impacts to desert tortoise critical habitat.
- The project would have significant substantial unavoidable impacts to special-status birds.
- The project would have significant substantial unavoidable adverse impacts on desert bighorn sheep.
- The project would cause cumulative long-term adverse impacts to, and degradation of, unique visual resources that characterize the Mojave Desert. These resources include, but are not limited to, scenic vistas, cultural landscapes, character and values of adjacent wilderness areas, and dark night skies.

The project presents numerous potentially significant adverse impacts beyond those currently identified in the DEIS/DEIR. The analysis needs to consider more completely the impacts to adjacent lands, including the cultural and natural resources of Mojave National Preserve. NPS is particularly concerned with the project's potential impacts to the hydrology, threatened and endangered species, scenic landscapes, and wilderness character. Analysis of alternatives A, B, and C should address these impacts comprehensively. These alternatives should be revisited with greater consideration of the proximity of the project site to the Preserve and the subsequent heightened risk of adverse impacts to its resources.

"Under Alternative G, the BLM would not authorize a ROW grant for the project and would amend the CDCA Plan to identify the site as unsuitable for a utility-scale solar development; and the County would not approve the Groundwater Well Permit application." NPS maintains that Alternative G thoroughly considers the long-term needs of future generations for renewable and non-renewable resources. In contrast, analyses of Alternatives A through D conclude significant levels of irreversible, unavoidable impacts to the cultural and natural resources of the project area and surrounding lands, which includes resources managed and protected by Mojave National Preserve.

The DEIS/DEIR rejected a private land alternative, in part, due to proximity to the "Mojave River wildlife linkage corridor, Superior-Cronese DWMA (USFWS-designated critical habitat for desert tortoise), [and] Afton Canyon Area of Critical Environmental Concern (ACEC)." Similarly, the proposed location of this project is immediately adjacent to Mojave National Preserve, which, as a unit of the National Park System, also contains wildlife linkage corridors between habitat islands for desert bighorn sheep (*Ovis canadensis nelsoni*) and designated critical habitat for the desert tortoise (*Gopherus agassizii mohavensis*) plus designated wilderness. It is also adjacent to the aquatic habitat of the endangered Mohave tui chub (*Siphateles bicolor mohavensis*). We ask the BLM to analyze the Soda Mountain location with the same level of prudence and scrutiny that was given the private lands alternative. Moreover, we urge the BLM to reconsider the potential for this project to be sited on other BLM lands, private lands, or other degraded lands where renewable energy projects would present fewer adverse impacts to natural and cultural resources.

### Planning & Environmental Analysis

We have found several instances in the DEIS/DEIR of our previous comments being misquoted or misinterpreted. The credibility of the NEPA analysis could be compromised by this misinformation; we request revisions in the FEIS/FEIR accordingly. Specific examples include:

Page	Misquote/Misinterpretation
H.3-7 (Appendix H-3)	<b>DEIS/DEIR:</b> The DEIS/DEIR referenced our November 21, 2012, scoping comments: "NPS suggested one potential source from which Soda Springs at Zzyzx might derive significant flow is a potential preferential groundwater flow path extending from known fracture traces north and south of the Soda Springs at Zzyzx."

Page	Misquote/Misinterpretation
	<b>NPS Comment:</b> The letter, which is included in Appendix B, states: “[o]ne possible flow path for this recharge is through the location of the proposed pumping, along the northerly edge of the Soda Mountains, and then along the westerly edge of Soda Dry Lake following the permeable beach and colluvial sediments at the playa margin.”
H.3-27 (Appendix H-3)	<b>DEIS/DEIR:</b> “NPS suggested using the Maxey-Eakin method for estimating recharge would determine zero recharge and this should be used as the model input for the site”, and in the next paragraph, “NPS’s assertion that the Maxey-Eakin method should be used to estimate recharge has been questioned by other researchers.”
	<b>NPS Comment:</b> Our original comments read, “These assumptions likely substantially overestimate the actual recharge rate for the project area... [f]or example, the Maxey-Eakin method commonly used for estimating recharge in this arid region would predict about zero recharge at this low of an elevation.” We were pointing out that recharge was likely overestimated; we were not suggesting that the Maxey-Eakin method should be used.
	<b>NPS Comment:</b> We also suggest that the BLM evaluate published literature such as Scanlon et al. 2006, who, in a summary of groundwater recharge in arid regions, have found recharge ranges from 0.1% to 5% of precipitation. These findings suggest the DEIS/DEIR analysis should consider a scenario with a lower recharge rate.
pages 3.4-18, 3.4-29	<b>DEIS/DEIR:</b> “[F]our box culverts and two bridges were identified in the BRTR <sup>†</sup> , that occasionally may be used by sheep (Panorama Environmental, Inc, 2013a; Epps et al., 2013).”
	<p><b>NPS Comment:</b> Epps et al. (2013) correctly identify “four existing underpasses in or near the affected area and... two specific locations where overpass structures might be built.” Moreover, the DEIS/DEIR does propose the installation of additional wildlife watering facilities (APM 75, page 3.4-29) under the assumption that the watering facilities would draw sheep towards the proposed crossing locations, but the DEIS/DEIR does not demonstrate a scientific justification or provide research that indicates that this option, as a mitigating measure, would be beneficial.</p> <p>In addition, there have been several responses that indicate a basic misunderstanding of this system. For example, BLM recently responded that: “The cause of desert bighorn sheep absence in the north Soda Mountains is largely the absence of resources that support this species. While the highway barrier is considered a contributing factor to species’ absence in this area, if the area could support sheep, they likely would be there.” One might have said the same about the South Soda Mountains prior to the relatively recent arrival of bighorn inhabiting this area. The bighorn in the Mojave Desert act as a true meta-population, with populations occasionally becoming extirpated while other areas are recolonized (Epps et al. 2010). These processes rely on connectivity between bighorn herds in this region, and we have specific strategies that we have proposed that will overcome the highway barrier and allow sheep to use the North Sodas. However, this will be particularly difficult or impossible if the proposed solar array is installed with the current speculative mitigation measures.</p>

<sup>†</sup>Biological Resources Technical Report. 2013. California BLM Case No. CACA 49584.

## Identification of Significant Issues

### Groundwater Analysis

While we agree with several findings of significant and unavoidable impacts caused by this project, we also find the environmental analysis to be incomplete in many instances. Consumptive use of groundwater

during construction and operation in an area of limited recharge, for instance, may threaten nearby natural spring discharge. The DEIS/DEIR does not consider potential impacts to small seeps and springs along Zzyzx Road on the north end of the Soda Mountains. These surface features are frequently and heavily used by desert bighorn sheep; if drawdown from the groundwater table adversely impacts these features, desert bighorn will also be negatively affected. We reiterate here our prior comments with regard to groundwater monitoring and project impacts to the surface waters along Zzyzx Road. Piezometers would need to be specifically located for the purpose of monitoring aquifer drawdown from the groundwater pumping being proposed for the Soda Mountain Solar Project. The DEIS mentioned this water-monitoring technique in Mitigation Measures 3.19-3 and 3.19-4, largely due to the San Bernardino County Groundwater Ordinance No. 3872 and Memorandum of Understanding with BLM. It also, in a proposed mitigation, delegated San Bernardino County and the BLM to determine project impacts to other water resources, such as Soda Spring, with no reference to the land owner or land management agency responsible for protecting these resources in perpetuity.

The National Park Service manages the public lands on which these springs and seeps are located. The Organic Act of 1916 tasks the NPS with the mission and mandate to “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 U.S.C. § 1 *et seq.*). For these reasons, we strongly urge the BLM to implement a groundwater model and monitoring plan that includes Soda Spring, the springs and seeps along Zzyzx Road south and east of Interstate 15, and the aquifer along the playa’s western margin.

#### Air Resources

As identified in Table ES-2, environmental impacts to air resources would be significant and unavoidable. Construction of this project would degrade air quality at the Desert Studies Center, an area of the Preserve operated by the California State University system to introduce students to a pristine desert ecosystem. Air pollutants from construction could contribute to an air quality violation. On the other hand, the net reduction in greenhouse gas emissions potentially realized by this project could be obtained by development in other areas with less impact to natural and cultural resources.

#### **Connected, Similar, and Cumulative Actions**

##### Wildlife—Avian Species

The analysis conducted in the DEIS/DEIR on potential avian impacts was necessary, and we agree with the finding that potential avian impacts are significant and unavoidable. Although the causes of avian impacts at commercial-scale solar projects remain under investigation, this previously unknown and unsuspected aspect of large-scale development indicates that additional analyses and caution are warranted.

We are especially concerned with the project’s possible attraction of migratory birds that typically utilize the spring oasis at Zzyzx. The Zzyzx complex includes springs, small wetlands, and two artificial ponds, all of which attract numerous waterfowl, avian migrants, and winter residents, including special status birds, such as the yellow-headed blackbird and least bittern. Numerous species protected under the Migratory Bird Treaty Act frequent the area. The proximity of the Soda Mountain Solar Project to Zzyzx and Soda Springs is six kilometers on the opposite side of the Soda Mountains. Because of the high number of migratory birds already known to frequent the area, NPS questions whether the project may attract much greater numbers of migratory birds than described in the DEIS/DEIR. The DEIS/DEIR references avian collision risks under investigation at both the Genesis Solar and Desert Sunlight photovoltaic solar projects, similar to the project proposed at Soda Mountain (p. 3.4-36). Weekly and monthly monitoring reports for these projects may be accessed from

<http://www.firstsolar.com/en/Projects/Desert-Sunlight-Solar-Farm> and  
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx>.

### **Direct, Indirect and Cumulative Impacts**

Disturbance of 2,456 acres of vegetation and habitat for a period of at least 30 years would significantly impact natural topography, hydrology, native plant communities, special-status plants, and special-status birds, especially the burrowing owl. Solar energy developments may pose significant, unknown risks to avian species—not only during construction, but also during operation. The proposed Avian Monitoring Program will only quantify the impacts and does nothing to avoid, mitigate, or offset these risks. The requirement to develop an unspecified adaptive management program of unknown duration or utility cannot be analyzed for its effect upon the level of impacts.

#### Wildlife—Desert Bighorn Sheep

The DEIS/DEIR currently assumes that sheep will pass through the project site. Bighorn sheep are known to avoid humans and man-made structures. Based on current literature about desert bighorn sheep populations in the Mojave Desert (Epps et al., 2013), bighorn sheep can be expected to migrate on a very limited basis around the Soda Mountain Solar location to the north and south. They would not be expected to move through the project site. The DEIS/DEIR lacks analysis of an avoidance buffer. Addressing sheep migration movements in and around Soda Mountains in the context of known infrastructure avoidance by sheep would increase the accuracy and improve the defensibility of the DEIS/DEIR. If the project moves forward as described in the DEIS/DEIR, bighorn sheep migration between the north and south areas of the project will likely be permanently impeded.

#### Wildlife—Mohave Tui Chub

The sole remaining source population of Mojave tui chub lives in MC Spring adjacent to the proposed Soda Mountain Solar project site at Zzyzx in Mojave National Preserve. Its fragile habitat, MC Spring and Lake Tuendae, requires active management to remain viable. There exist four remaining populations of Mohave tui chub in the world. To date, there is not enough information available regarding the groundwater table that feeds MC Spring and Lake Tuendae to know the threshold of impact by groundwater drawdown at the Soda Mountain Solar project site. The NPS disagrees with the DEIS/DEIR analysis that concludes a lack of impact because sufficient information is not available (DEIS/DEIR p. 3.4-70). Without conclusive knowledge about the hydrology of the Soda Mountain Valley aquifer, the Project risks the consequence of irreversible damage to the habitat and the viability of this highly endangered species. We suggest the project proponent characterize the hydrology of the Soda Mountain Valley aquifer and monitor groundwater pumping using a well-designed network of piezometers for early warning of potential impacts to Mohave tui chub.

#### Air Quality—Fugitive Dust Emissions

The project's location lies in close proximity to an active eolian transport area, evidenced by active dune systems to the south and east of the Soda Mountains. The analysis of fugitive dust emissions in the DEIS/DEIR does not consider the project's proximity to an active eolian transport area. As a result, it provides an inaccurate analysis of fugitive dust emission and underestimates the project's likelihood to exceed PM<sub>10</sub> thresholds.

Mojave National Preserve is a Class II floor area as defined in the Prevention of Significant Deterioration Program under the Clean Air Act (CAA). It is also defined by the Environmental Protection Agency as a nonattainment area for ozone and PM<sub>10</sub> standards. For these reasons, NPS actively works to ensure no actions within or adjacent to the Preserve will violate federal or state air pollution control laws or regulations, nor will such actions increase emissions or violate state conformity requirements.

Mojave National Preserve's General Management Plan/EIS states that "visibility is probably the most important air quality resource in the desert region, and it is the most easily affected by activities that generate dust (especially fine particulates)." Moreover, the Record of Decision for the General Management Plan states, "The proposed general management plan identifies proactive goals and strategies to inventory, document [and] protect, where possible, the air quality, visibility, night sky and natural ambient sound." (p. 136, General Management Plan, Appendix B) Disturbance during construction, such as removal of vegetation and loosening of the soil crust, will likely result in fugitive dust emissions from much lower wind velocities than current conditions because particulate matter is more easily swept up into the air from areas where the ground has been disturbed. Strong winds are common and capable of generating dust storms from native, undisturbed terrain, and the construction phase of the project could not be accomplished without creating significant ground disturbance.

Yet, Mitigation Measure 3.2-1 specifies that water will be applied only to "unpaved roads and unpaved parking areas actively used during operation and maintenance", leaving most of the disturbed construction area as a source of fugitive dust. The applicant-estimated dust emissions included a 55% reduction as a consequence of watering unpaved roads and unpaved parking areas even though the applicant has not "formally committed to implementing an operation-based watering program to control fugitive dust." We anticipate that higher estimates will likely exceed PM<sub>10</sub> thresholds, and we recommend that BLM and the applicant add fugitive dust abatement measures for all disturbed areas of the project and revise estimates of PM<sub>10</sub> levels within the DEIS/DEIR accordingly.

#### Scenic Resources and Dark Night Sky

While cumulative impacts to visual resources from the project are significant and unavoidable, it is not clear how proposed mitigation measures will reduce the adverse impact on the scenic vista caused by the construction of a large solar panel array to less than significant. NPS has identified the desert scenery as a fundamental resource for Mojave National Preserve. Congress provides specific direction for the California desert parks and wilderness areas in section 2 (b)(1) of the California Desert Protection Act, including to "[p]reserve unrivaled scenic, geologic and wildlife values associated with these unique natural landscapes." Moreover, about 700,000 of the Preserve's 1.6 million acres are designated wilderness. We are, therefore, concerned about the project's long-term degradation of the unique visual resources that define the Mojave Desert and contribute to scenic values of the area. The impact analysis in the DEIS/DEIR describes cumulative adverse impacts on the scenic vista, on the character and quality of the site, and on its surroundings that are unavoidable and significant. Project-specific sources of light and glare could degrade the scenic resources and dark night sky of the eastern Mojave Desert region. Photos of other large solar panel arrays (e.g., Silver State North and Copper Mountain) demonstrate significant, long-term, and unavoidable impacts to the scenic vista. "The Project would convert 2,222 acres of naturally appearing desert valley to an industrial facility" deploying "1.7 million flat-plate polycrystalline silicon solar panels grouped into tracking arrays" which would likely be in conflict with BLM's "VRM Class III objectives" for the site and which would negatively impact the views to and from Mojave National Preserve.

Mitigation Measures 3.18-2 (Construction), 3.18-3 (Operation and Maintenance), and 3.18-4 (Decommissioning and Site Reclamation) do not reverse or reduce these significant adverse visual impacts. The proposed 2,557 acres of solar panels on the landscape will create a significant visual impact that does not currently exist. None of the mitigation measures in Impact Vis-1 for either Construction (page ES-37) or Operation and Maintenance (pages ES-37 to ES-38) address the visual impacts caused by the solar panels themselves. Mitigation measures under Vis-3 refer back to the mitigation measures proposed under Vis-1 (page ES-39). Glint and glare reflected off the panels will negatively impact the visual landscape; the size of the project makes these impacts significant. Based on the DEIS/DEIR analysis, Impacts Vis-1 and Vis-3 are significant and unavoidable.



### Wildlife—Desert Kit Foxes

As with avian species, other wildlife species are likely to be adversely impacted by the project. For instance, 57 desert kit fox dens were recorded during the 2012 surveys of the proposed development area, yet the DEIS/DEIR considers only direct kills and crushed burrows preventing escape and does not analyze the effects of habitat destruction or loss of connectivity. Mitigation Measure 3.4-1b addresses biological monitoring; it does not avoid or reduce impacts to kit fox habitat. As such, NPS recommends the BLM expand its analysis to better consider indirect and cumulative impacts to desert kit fox and further explore meaningful mitigation measures to reduce potential impacts.

### **Mitigation for Adverse Impacts**

#### Wildlife—Desert Bighorn Sheep

The DEIS/DEIR considers a project design with an approximate 0.25-mile setback from 20% slopes, to mitigate adverse impacts to desert bighorn populations. It also concludes in its analysis that adverse impacts are significant and unavoidable. We highly recommend the BLM reconsider ongoing research (Epps et al., 2013). Dr. Clinton Epps has demonstrated in his work that the Soda Mountain Solar project would prohibit any future potential to reestablish bighorn connectivity between north and south Soda Mountains. Mitigation options include setbacks of 0.75 miles from slopes greater than 20% so that the concentration of solar arrays are placed away from these slopes, set on poorer-quality habitat to the south of the proposed location. True mitigation would also facilitate a determination of the types of structures that can facilitate bighorn movements across the highway and around the solar arrays; such strategies are suggested in Epps et al. (2013) and consist of modifying underpasses, constructing overpasses, and investigating whether water catchments will help facilitate such movement. We have submitted prior comments with specific recommendations and would welcome the opportunity to meet with BLM and help design such options and highly encourage the development of an environmentally preferred alternative that will put natural resources first and solar development second. Such an alternative also would provide the project with a full range of reasonable and realistic analyses options, a range we consider to be lacking in the current document.

#### Artificial Water Sources

Despite the absence of scientific evidence, the Applicant and the BLM are promoting artificial water sources as the only feasible means of mitigation for impacts to bighorn habitat and connectivity. There is no scientific literature or study supporting the notion that presence of water would overcome bighorn aversion to approaching a human-occupied construction site or power plant, and the mitigation measure erroneously attempts to substitute need for water with disruption of connectivity. Although there is circumstantial evidence that water placement can expand or improve already occupied habitat, there is no evidence that it can facilitate movements. The priority connection is between the Soda Mountains north and south of Interstate 15. Placement of water is unlikely to result in spontaneous colonization and habitat utilization as the connection between north Soda and Avawatz is a much greater distance, and the smaller probability of colonization from the south will be reduced by project construction.

#### Mitigation by Setbacks from 20% Slopes

Other potential mitigation measures, such as greater setbacks, concentrating development in certain areas, and improving highway crossings suggested by NPS wildlife biologists, appear to have been rejected. We suggested in our comments on the administrative draft (see discussion below) that impacts to desert bighorn sheep could be reduced by minimizing the footprint of the arrays and by maintaining setbacks of 0.75 miles from 20% slopes. Minimization of the project footprint would decrease impacts to the occupied areas of desert tortoise habitat, and the greater setbacks from mountainous areas would decrease impacts to

desert bighorn sheep. NPS requests the BLM consider and analyze additional mitigation measures with regards to desert bighorn sheep in order to ensure a thorough and accurate environmental impacts analysis.

### Summary of Comments

NPS previously submitted most of these comments in its review of the administrative DEIS/DEIR for this project as a cooperating agency under NEPA. Those comments are summarized and reiterated here with slight modifications. It would be beneficial to both NPS and the BLM to meet and discuss our comments in further detail. Please contact Ms. Amee Howard, NPS Renewable Energy Specialist, at (702) 293-8645 regarding meeting coordination.

cc:

MOJA (L Whalon, D Hughson, D Burdette, D Woo)  
PWR (M Lee, S Gibbons, S Quinn, T Flanagan, L Rozzell, A Howard)  
BLM (T Pogacnik, T Raml, K Symons, E Meyer-Shields, G Miller, Jeff Childers)

### Literature Cited

2013. Foundation Document, Mojave National Preserve. US Department of the Interior, National Park Service. 84 pages.
2011. Memorandum of Understanding between the US Department of the Interior Bureau of Land Management California State Office and the USDO National Park Service Pacific West Region on Coordination and Collaboration on Renewable Energy Projects in California. 8 pages.
2011. Revised Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*). US Fish & Wildlife Service, Region 8, Pacific Southwest Region. 246 pages.
2010. Recommendations of Independent Science Advisors for the California Desert Renewable Energy Conservation Plan (DRECP). Prepared for Renewable Energy Action Team. Conservation Biology Institute, DRECP-1000-2010-008-F. October 2010. 64 pages.
- Epps, C.W., J.D. Wehausen, P.J. Palsboll, and D.R. McCullough. 2010. Using genetic tools to track desert bighorn sheep colonizations. *Journal of Wildlife Management* 74:522-531.
- Epps, C.W., J.D. Wehausen, R.J. Monello, and T.G. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity. Report to the California Department of Fish and Wildlife, National Park Service, and Bureau of Land Management. 10 pages.
- Scanlon, B. R., Keese, K. E., Flint, A. L., Flint, L. E., Gaye, C. B., Edmunds, W. M. and Simmers, I. 2006. Global synthesis of groundwater recharge in semiarid and arid regions. *Hydrol. Process.*, 20: 3335-3370.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

MAR 03 2014

Attn: Jeffery Childers  
Soda Mountain Solar Project Manager  
Bureau of Land Management  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Subject: Proposed Soda Mountain Solar Project and Draft Plan Amendment Draft Environmental Impact, San Bernardino County, CA (CEQ#20130353)


Dear Mr. Childers:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the proposed Soda Mountain Solar Project and Draft Plan Amendment pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under § 309 of the Clean Air Act.

EPA recognizes the complexity of the proposal and supports an alternative that assures a long-term, sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health. EPA commends the Bureau of Land Management for providing a comprehensive document and examining a reasonable range of alternatives. Many issues, such as greenhouse gas emissions, were addressed in a progressive manner, and the DEIR/DEIS contained comprehensive lists of proposed mitigation measures and applicant-proposed measures for environmental impacts. However, following our review of the DEIR/DEIS, we are concerned with the lack of sufficient information to determine the extent of direct, indirect and cumulative impacts to groundwater resources, nearby springs, and sensitive biological resources. Due to these concerns, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed “Summary of EPA Rating Definitions” and detailed comments further describing our concerns.

We appreciate the opportunity to review this DEIS and are available to discuss our comments. Please send a hard copy of the FEIS to this office when it is officially filed with EPA’s new electronic EIS submittal tool: e-NEPA. If you have any questions, please contact me at (415) 972-3521, or contact Scott Sysum, the lead reviewer for this project, at (415) 972-3742 or [sysum.scott@epa.gov](mailto:sysum.scott@epa.gov).

Sincerely,

  
Kathleen Martyn Goforth, Manager  
Environmental Review Office (ENF-4-2)

Enclosures:

- (1) Summary of EPA Rating Definitions
- (2) EPA’s Detailed Comments

cc: Robert Fulton, Manager – California Desert Studies Center

## **SUMMARY OF EPA RATING DEFINITIONS\***

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement.

### **ENVIRONMENTAL IMPACT OF THE ACTION**

#### ***“LO” (Lack of Objections)***

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### ***“EC” (Environmental Concerns)***

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### ***“EO” (Environmental Objections)***

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### ***“EU” (Environmentally Unsatisfactory)***

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. The EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality.

### **ADEQUACY OF THE IMPACT STATEMENT**

#### ***Category “1” (Adequate)***

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### ***Category “2” (Insufficient Information)***

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### ***Category “3” (Inadequate)***

The EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

**US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED SODA MOUNTAIN SOLAR PROJECT AND DRAFT PLAN AMENDMENT, SAN BERNARDINO COUNTY, CA, MARCH 3, 2014**

Water Resources

*Groundwater Resources*

EPA is concerned about groundwater availability for the proposed project and potential impacts to sensitive resources nearby, including the Mojave tui chub. The Soda Mountains subbasin is geographically and topographically isolated, with limited real data available. No groundwater wells are known to be within the Project area, or within the alluvial portions of the subbasin (p. 3.19-10). According to the DEIS, the Applicant will need approximately 192 acre feet per year for three years for construction and 31.4 AFY for operations (p. 3.19-12). Potable water would be trucked in from off-site and is not included in estimates of groundwater consumption.

Geophysical surveys were performed in 2010 to evaluate the subsurface geologic conditions at three key locations within the subbasin. According to the DEIS, anomalies with the data were seen at one location (TEM-11); consequently, data at this location were not judged to be reliable. The geophysical survey also included 15 soil borings, but these were of limited usefulness due to the shallow depths explored and because groundwater was not encountered. In conjunction with the geophysical data, numerical modeling was used to evaluate the effects of groundwater withdrawal. According to the DEIS, modeling results indicate that conditions are favorable for obtaining sufficient water in the subbasin (p. H.2-35). Of concern, the accuracy of the model results is limited by the scarcity of measured values for many key parameters – including groundwater levels, hydraulic head, hydraulic conductivity, aquifer recharge, depth to bedrock (p. H.2-39). In short, no actual test wells were drilled to obtain measured values for groundwater levels or quality that could be utilized in the groundwater model.

Since groundwater extraction could adversely affect hydrologic resources, the Applicant proposed measures to reduce or avoid potential environmental impacts. These measures include the construction of a test well, observation well, and a distance observation well, and an aquifer test (APMs 14 & 15), collection of a water quality sample (APM 16), recalibration of the groundwater model (APM 17), and the development of a groundwater monitoring plan (APM 18). The groundwater monitoring plan would include quarterly reporting of levels during construction and a comparison with model predictions on an annual basis during construction, and every 5 years during project operation. Monitoring would cease after 5 years of operational monitoring if the monitoring data support the model predictions, and if the outflow from the northeast outlet is less than 50 AFY (p. 3.19-19).

*Recommendations:*

Prior to publication of the FEIS, conduct additional aquifer testing to more accurately assess groundwater resources within the Project area. Install monitoring wells to determine flow direction and depth to water level. Update the groundwater model to include any additional information obtained following the additional testing and include this information in the FEIS.

Design a more extensive groundwater monitoring network and include additional detail so that potential adverse impacts can be detected before damage has occurred, particularly at the Soda spring at Zzyzx.

Clearly describe the groundwater monitoring program within the FEIS, including the Applicant's role and responsibilities.

In the FEIS, commit to conducting sampling of groundwater monitoring wells more frequently than described in APM-18 during both construction and operations. Sampling should be conducted throughout the project life, and may need to be conducted for a longer period of time in the event that serious impacts are detected, or extreme conditions are present.

Consider collecting groundwater-level measurements on a real-time basis using an automatic sensing device and data logger.

Address what measures would be taken, and by whom, should groundwater resources in the basin become unavailable. Identify other viable sources of water that could be used for construction and operations in the event that groundwater is unavailable.

Appendix H-3 contains an Addendum to the Hydrogeologic Conditions and Groundwater Modeling Report. This report utilizes data at TEM-11 to create a conceptual model that includes a groundwater outlet at the southeast portion of the valley, where the water table is apparently much lower than elsewhere, as seen at TEM-11. According to the original Groundwater Modeling report, the TEM value at TEM-11 was not judged to be reliable because the water table was not detected and because the head value predicted by TEM results (below 992 feet amsl) was anomalously low. (The model prediction at TEM-11 was actually 1,089 feet amsl, almost 100 feet higher than the TEM result of 992 amsl.) Considering the discrepancies between the model predictions and the actual values measured, it is unclear as to how valid the other results are from the groundwater model. Furthermore, to use this data in the Addendum, when it was dismissed earlier, seems inconsistent.

*Recommendation:*

Data at TEM-11 were previously judged unreliable. If they are now deemed reliable and are being used to create a conceptual model illustrating an outlet in this area, this should be explained. The FEIS should clarify whether the data are reliable or not and if they have been incorporated into the groundwater model. Should BLM confirm that the data is not valid, the model should be updated with more reliable data.

The Addendum also notes that previous research conducted at the Desert Studies Center indicates that Soda Springs at Zzyzx is recharged locally by water flow from alluvial fan deposits. Vargas (2012) showed that water quality from the spring was similar in stable isotopes and inorganic constituents to water beneath the alluvial fan on the east side of the Soda Mountains. Local recharge along the eastern face of the South Soda Mountains is estimated in the range of 26 to 86 AFY (p. H.3-30). The combined groundwater withdrawal at the Desert Studies Center, Lake Tuendae, and Soda Springs is approximately



38.2 AFY. The Addendum concludes that local recharge is therefore sufficient to support all, or the majority of groundwater withdrawal and discharge at these sites.

*Recommendations:*

The Addendum does not consider the effects of climate change or drought on recharge and groundwater levels on the eastern face of the South Soda Mountains. In a dry year, recharge may be inadequate to support groundwater withdrawal and discharge at these sites. We recommend revising this sentence accordingly.

EPA recommends conducting additional water quality analyses of groundwater in the springs and nearby wells, including the water supply wells and the monitoring wells that will be installed in conjunction with the proposed Project. Such data may yield important information regarding the source of the water.

Age dating should also be conducted in order to determine better estimates of recharge.

The Addendum repeatedly notes that geophysical evidence shows the presence of up to several hundred feet of saturated alluvium in the valley floor, which directly contradicts a recharge rate of zero.

*Recommendation:*

Age date the water to determine whether it consists of old recharge (1,000 to 30,000 years before present) or modern recharge (roughly representing the last 50 years). Such information will better inform estimates of recharge.

In APM 18 it is stated that if it is determined that the Project has caused a decrease in the volume of groundwater discharged at Soda Spring such that the spring is less than 4 feet deep, thereby threatening the tui chub habitat, then the Project shall correspondingly curtail withdrawal of groundwater and import a corresponding amount of water from outside of the Soda Mountain Valley (p. 3.19-19).

*Recommendation:*

The FEIS should demonstrate the availability of sufficient alternative supply of water from outside the Soda Mountain Valley. The FEIS should identify this alternative source of water for the project.

### Site Grading, Drainage and Erosion Control

The DEIS states that the approximate permanent disturbance acreage within the requested 4,179-acre ROW for the project would be 2,222 acres (p. 2-5). The DEIS also states that the existing site runoff patterns would be preserved to the extent feasible. Upgradient stormwater runoff would not be diverted around the solar arrays. The development would not detain runoff or substantially interfere with existing drainage patterns on or off the Project site and would preserve existing sediment transport throughout the site. Wildlife exclusion fencing may include break-away fences (see Section 2.4.2.4) to allow larger

flow events to pass through the array area. Fencing would be inspected after rain events and replaced or maintained as needed (p. 2-13).

The DEIS further states that up to 1,155 acres would be graded for the Project (Panorama Environmental, Inc., 2013) and additional areas would be subject to disc and roll or another type of ground treatment. The final area and limits of grading will be determined during detailed design, but will be within the footprint of disturbance analyzed in this PA/EIS/EIR (p. 2-18). The amount of acreage to be graded is approximately 52% of the total disturbed area for the arrays. Even though the site runoff is channelized due to I-15 levees and culverts, it is unclear how the applicant will be able to maintain existing site runoff patterns with this amount of grading, grubbing, disc and roll or other ground treatments.

The DEIS also states that due to the persistent winds that blow throughout the year, large portions of the desert surface have been modified into a mosaic of pebbles and stones known as desert pavement (p. 3.19-1. A plan for identification and avoidance or protection of sensitive desert pavement shall be prepared and submitted to the BLM for review and approval at least 60 days prior to start of construction (p. 3.7-25). As stated in the DEIS, the disturbance of the desert pavement by grading, grubbing or other ground treatments could cause a noticeable and possibly substantial increase in wind erosion rates during construction, especially since desert pavement overlies a stone-poor to stone-free matrix (the Av layer) of silt, clay and fine sand, derived principally from wind-blown dust. The disturbance of desert pavement as well as other grading in the project area could have the potential for the spread of dust and potentially the spread of Coccidioidomycosis or Valley Fever spores. Cases of valley fever have been documented in San Bernardino County.

*Recommendations:*

The FEIS should present an improved analysis of how the existing site runoff patterns will be maintained given the extensive amount of grading proposed.

The FEIS should quantify the likely impacts to desert pavement due to grading, grubbing and other ground treatments, since it proposed to grade approximately 52% of the project site.

The FEIS should include mitigation measures for Valley Fever, since dust control in the desert is problematic, especially when desert pavement is disturbed.

# **STATE AND LOCAL AGENCIES**

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## Comment Letters

## Alexandra Kostalas

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**From:** jchildrens@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:18 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Traffic Study

----- Forwarded message -----

From: **Harrell, Dina D@DOT** <[dina.harrell@dot.ca.gov](mailto:dina.harrell@dot.ca.gov)>  
Date: Thu, Dec 19, 2013 at 11:01 AM  
Subject: Traffic Study  
To: "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>  
Cc: "Kopulsky, Dan E@DOT" <[dan.kopulsky@dot.ca.gov](mailto:dan.kopulsky@dot.ca.gov)>

Good morning, we (Caltrans, Planning) has received an Notice of Completion Environmental Document Transmittal for the above project. It was sent to our Traffic Operations Department for comments. The Operations Department would like to know if a Traffic Study has been done on this project for the impact of I 15. Please let me know as soon as possible. Thank you for your time.

*Dina Harrell*

*Caltrans Planning*

*464 W. 4th St - 6th Floor*

*San Bernardino, CA 92401*

*(909) 388-7139*



## NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100  
West Sacramento, CA 95691  
(916) 373-3715  
Fax (916) 373-5471  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
Ds\_nahc@pacbell.net  
e-mail: ds\_nahc@pacbell.net



January 2, 2014

Chris Conner

**County of San Bernardino Land Use Service Agency**

385 North Arrowhead Avenue  
San Bernardino, CA 92415-0182

RE: SCH#2012101075 Joint NEPA/CEQA Document; draft Environmental Impact Statement / Environmental Impact Report (DEIS/DEIR) for the **"Soda Mountain Solar Project;"** located in the Baker area; Mojave Desert; San Bernardino County, California

Dear Chris Conner

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document. This project is also subject to California Government Code Sections 65040.2, *et seq.*

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.



A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

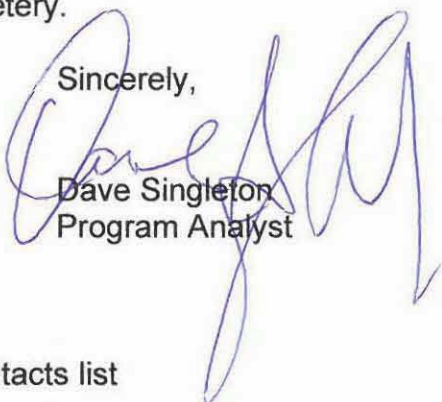
California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,



Dave Singleton  
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list



**Native American Contacts  
San Bernardino County California  
January 2, 2014**

Ramona Band of Cahuilla Mission Indians  
Joseph Hamilton, Chairman  
P.O. Box 391670                      Cahuilla  
Anza                      , CA 92539  
admin@ramonatribes.com  
(951) 763-4105  
(951) 763-4325 Fax

San Manuel Band of Mission Indians  
Carla Rodriguez, Chairwoman  
26569 Community Center Drive                      Serrano  
Highland                      , CA 92346  
(909) 864-8933  
(909) 864-3724 - FAX  
(909) 864-3370 Fax

Joseph R. Benitez (Mike)  
P.O. Box 1829                      Chemehuevi  
Indio                      , CA 92201  
(760) 347-0488  
(760) 408-4089 - cell

Chemehuevi Reservation  
Edward Smith, Chairperson  
P.O. Box 1976                      Chemehuevi  
Chemehuevi Valley CA 92363  
chair1cit@yahoo.com  
(760) 858-4301  
(760) 858-5400 Fax

Fort Mojave Indian Tribe  
Timothy Williams, Chairperson  
500 Merriman Ave                      Mojave  
Needles                      , CA 92363  
(760) 629-4591  
(760) 629-5767 Fax

Colorado River Indian Tribe  
Wayne Patch, Sr., Chairman  
26600 Mojave Road                      Mojave  
Parker                      , AZ 85344                      Chemehuevi  
crit.museum@yahoo.com  
(928) 669-9211-Tribal Office  
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(928) 669-1925 Fax

San Fernando Band of Mission Indians  
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tsen2u@hotmail.com                      Serrano  
(661) 753-9833 Office                      Vanyume  
(760) 885-0955 Cell                      Kitanemuk  
(760) 949-1604 Fax

AhaMaKav Cultural Society, Fort Mojave Indian  
Linda Otero, Director  
P.O. Box 5990                      Mojave  
Mohave Valley AZ 86440  
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(928) 768-7996 Fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012101075; Joint NEPA/CEQA Document; draft EIS/EIR for the Soda Mountain Solar Project; located in the Baker area; San Bernardino County, California.

**Native American Contacts  
San Bernardino County California  
January 2, 2014**

Morongo Band of Mission Indians  
William Madrigal, Jr., Cultural Resources Manager  
12700 Pumarra Road                      Cahuilla  
Banning                      , CA 92220                      Serrano  
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wmadrigal@morongo-nsn.  
gov  
(951) 572-6004 Fax

San Manuel Band of Mission Indians  
Daniel McCarthy, M.S., Director-CRM Dept.  
26569 Community Center. Drive                      Serrano  
Highland                      , CA 92346  
(909) 864-8933, Ext 3248  
dmccarthy@sanmanuel-nsn.  
gov  
(909) 862-5152 Fax

Fort Mojave Indian Tribe  
Nora McDowell, Aha Makav Society  
P.O. Box 5990                      Mojave  
Needles                      , CA 92363  
(928) 768-4475  
noramcdowell-  
antone@fortmojave.com  
(760) 629-5767 Fax

Serrano Nation of Mission Indians  
Goldie Walker, Chairwoman  
P.O. Box 343                      Serrano  
Patton                      , CA 92369  
  
(909) 528-9027 or  
(909) 528-9032

Ernest H. Siva  
Morongo Band of Mission Indians Tribal Elder  
9570 Mias Canyon Road                      Serrano  
Banning                      , CA 92220                      Cahuilla  
**siva@dishmail.net**  
(951) 849-4676

Las Vegas Paiute Tribe  
Attn: Cultural Resources Department  
1 Paiute Drive                      Paiute  
Las Vegas                      , NV 89106  
contact@lvpaiute.com  
  
(702) 386-3926  
(702) 383-4019 - FAX

Twenty-Nine Palms Band of Mission Indians  
Anthony Madrigal, Jr, THPO Officer  
46-200 Harrison Place                      Chemehuevi  
Coachella                      , CA 92236  
amadrigal@29palmsbomi-nsi.gov  
760-863-2444  
760-625-7872-cell  
760-863-2449 - Fax

MOAPA Band of Paiutes  
William Anderson, Chairperson  
P.O. Box 340                      Paiute  
Moapa                      , NV 89025  
(702) 865-2077-Env Office  
www.moapabandofpaiute-  
nsn.gov

**This list is current only as of the date of this document.**

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his list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012101075; Joint NEPA/CEQA Document; draft EIS/EIR for the Soda Mountain Solar Project; located in the Baker area; San Bernardino County, California.

**Native American Contacts  
San Bernardino County California  
January 2, 2014**

Pahrump Paiute Tribe  
Richard Arnold, Chairperson  
P.O. Box 3411                      Paiute  
Pahrump      , NV 89041-

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

his list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012101075; Joint NEPA/CEQA Document; draft EIS/EIR for the Soda Mountain Solar Project; located in the Baker area; San Bernardino County, California.





State of California - Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Inland Deserts Region  
407 West Line Street  
Bishop, California 93514  
www.dfg.ca.gov

EDMUND G. BROWN, Jr, Governor  
CHARLTON H. BONHAM, Director



January 6, 2014

Mr. Chris Conner  
San Bernardino County Land Use Services Department  
385 N. Arrowhead Avenue  
San Bernardino, Ca 92415-0182

**Subject: Soda Mountain Solar Project, Draft Environmental Impact Statement /Environmental Impact Report, State Clearinghouse Number# 2012101075**

Dear Mr. Conner:

The California Department of Fish and Wildlife (Department) has reviewed the Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (DEIR) prepared by the Bureau of Land Management (BLM) and the County of San Bernardino (Lead Agency) for the Soda Mountain Solar Project, hereinafter referred to as the Project. The Project, proposed by Soda Mountain Solar, LLC, is for the construction, operation, maintenance, and decommissioning of approximately 2,455.57-acres, 358-megawatt (MW) alternating current (AC) solar photovoltaic (PV) energy generation plant, interconnection (gen-tie) transmission line, operations and maintenance of facilities, and site access roads. The Project is located in central San Bernardino County, California, entirely on BLM-administered lands, approximately six miles southwest of the town of Baker, California.

The Department is providing comments on the Draft EIS/EIR as the State agency which has the statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish and Game Code (FGC) §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). The Department's fish and wildlife management functions are implemented through its administration and enforcement of the Fish and Game Code (FGC §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, Title 14 California Code of Regulations (CCR) §15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

**Regulatory Authority**

**Incidental Take Permit:** The Department has regulatory authority over projects that could result in "take" of any species listed by the State as threatened or endangered,

*Conserving California's Wildlife Since 1870*

pursuant to the California Endangered Species Act (CESA). If a project could result in take of any species listed as threatened or endangered under CESA, an Incidental Take Permit (ITP) pursuant to Fish and Game code Section 2081(b) for the project would be warranted. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (sections 21001(c), 21083, Guidelines sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports Statements of Overriding Consideration (SOC). The CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with CESA.

**Fully Protect Species:** The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and the Department cannot authorize their take for development. The Department recommends the DEIS/DEIR evaluate and address Project related impacts to fully protected species and include appropriate species specific avoidance measures.

**Bird Protection:** The Department has jurisdiction over actions that may result in the disturbance or destruction of active nests sites or the take of birds. Sections of the Fish and Game Code that protect birds, their eggs, and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory non-game bird).

### **General Comments**

The Project is in the range of the desert tortoise (*Gopherus agassizii*, DT), which is listed as threatened under the CESA; the golden eagle (*Aquila chrysaetos*, GE) and the American peregrine falcon (*Falco peregrinus anatum*, APF) both of which are Fully Protected Species under FGC Section 3511; Nelson's bighorn sheep (*Ovis canadensis nelsoni*, BHS), which is a Fully Protected Species under FGC Section 4700; the burrowing owl (*Athene cunicularia*, BUOW), which is a Species of Special Concern and protected under FGC Section 3503.5; the prairie falcon (*Falco mexicanus*, PF), loggerhead shrike (*Lanius ludovicianus*, LHS), Le Conte's thrasher (*Toxostoma lecontei*, LCT), American badger (*Taxidea taxus*, AB), and Mojave fringe-toed lizard (*Uma scoparia*, MFTL), all of which are listed as a State Species of Special Concern; and the desert kit fox (*Vulpes macrotis arsipus*, DKF), DKF is addressed in Title 14 of the California Code of Regulations: §460. "Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time." DKF is also addressed under the FGC Section: §4000 "Fur-bearing mammals enumerated. The following are fur-bearing mammals: pine marten, fisher, mink, river otter, gray fox, red fox, kit fox, raccoon, beaver, badger, and muskrat."

The DEIS/DEIR states that a DT Translocation Plan, Burrowing Owl Mitigation and Monitoring Plan, and Bird and Bat Conservation Strategy shall be developed. The above mentioned plans along with DKF Mitigation and Monitoring Plan, Raven Control



Plan, Cacti Salvage Plan, and an Eagle Conservation Plan need to be included as attachments to the DEIS/DEIR so they can be reviewed in order to determine the environmental impacts of the Project.

The DEIS/DEIR describes the Project right-of-way as being 4,179 acres in size. Alternative A (Proposed Action) has 2,455.57 acres of vegetation disturbance, Alternative B will remove 1,811.9 acres of vegetation, Alternative C will remove 2,021.60 acres of vegetation, and Alternative C will remove 1,868.96 acres of vegetation. The Project right-of-way should reflect the acres of vegetation disturbance.

The Project is located south of the Soda Mountains and north of the Razor Road Off-Highway Vehicle Area and Mojave National Preserve. The effects of the Project combined with those of past and reasonably foreseeable future projects as well as natural constraints, appear to potentially impair or sever connectivity for DT and BHS. The Department recommends the Lead Agency include additional disclosure and analyses on connectivity issues the Project may impose on DT and BHS.

### **Desert Tortoise**

The DEIS/DEIR uses the term "clearance survey" for activities associated with the DT. We infer from this that DT would be moved if found on site. Movement of DT would entail take under CESA. As such, the Developer would be warranted to apply for and obtain an ITP from the Department before moving or otherwise handling DT.

The Road and Fence Plan (Plan) states that vehicles and equipment will access the buried conductor lines on the north side of I-15 via Opah Ditch Mine Road or through overland routes for maintenance of the conductor lines located outside of the array blocks. The Plan further states that accessing buried conductor cable southeast of I-15 for maintenance activities will be from the main access road, internal access roads, or overland routes. Figure 2-1, 2-5, 2-6, and 2-7 in the DEIS/DEIR shows Inter Array Access Roads, Collector Corridors, and Flood Protection Berms as having temporary DT exclusion fence installed around the outer perimeter of the construction work areas including the outer perimeter of roadways, substation, and collector lines routes to prevent DT from entering the areas of active construction. The Plan states that the solar array fields will be completely fenced with permanent combined DT and security fencing and that all temporary DT exclusion fence between the array fields will be removed at the completion of construction. The Department wants to remind the Lead Agency that all project related activities within the ROW that occur outside the maintained permanent DT exclusion fence will need to be monitored for the life of the project by a designated biologist.

The DEIS/DEIR Protocol DT Survey estimate of abundance (with confidence intervals) is based on the sample of live DT observed during site surveys that are great then 160 millimeter (mm) midline carapace length (MCL). The Department includes *all* DT observed above ground regardless of size to estimate DT numbers within a project area (which includes the linear components of a project, such as perimeter fence, roads, and



transmission lines). The Department recommends revising the DT estimate of abundance using *all* live DT observed and updating the DEIS/DIER accordingly

**Golden Eagle, American Peregrine Falcon, Prairie Falcon, Le Conte's Thrasher, and American Badger**

The DEIS/DEIR states that BHS and GE surveys were performed concurrently in March and May 2011. It is not clear if the surveys for BHS were done by the same people at the same time as the GE surveys. The Department does not support the same people conducting surveys concurrently for multiple species because it increases the chance that a species can be overlooked.

If the Project activities cannot feasibly avoid the breeding bird season, the Department recommends the Lead Agency require the Developer to comply with statute regarding nesting birds.

**Nelson's Bighorn Sheep**

The Department emphasizes the importance of re-establishing and maintaining connectivity between the South Soda Mountains and North Soda Mountains in terms of demographic and genetic benefits, and the importance of both to maintaining metapopulation function. The Department also noted the early recognition of the importance of preventing additional restrictions to movement in the vicinity of these ranges.<sup>1</sup> More than 40 years ago, and in comments specific to the Soda Mountains, it was recognized that consideration should be given to allowing for sheep movements and that construction of any facilities that would further restrict opportunities for movement would be detrimental to the persistence of bighorn sheep.<sup>2</sup>

Epps and coauthors used a sophisticated modeling exercise to evaluate the importance of the area in question relative to connectivity between areas north (west) and south (east) of Interstate Highway 15.<sup>3</sup> The network analysis reported by those authors indicated that, "... the North-South Soda Mountains connection is the most important restorable corridor for long-term demographic potential ... across the entire southeastern Mojave Desert of California...".<sup>4</sup> The authors then concluded that the proposed Soda Mountains Solar Project, "... has the potential to interfere with, if not

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<sup>1</sup> Bleich, V.C. 2012. Comments regarding the South Soda Mountains Solar Project as related to the Desert Renewable Energy Conservation Plan. Unpublished memo to Ms. R. Abella, California Department of Fish and Game, dated 26 August.

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<sup>3</sup> Epps, C.W., J.D. Wehausen, R.J. Monello, and T.G. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity. Unpublished report. Oregon State University, Corvallis, USA.

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preclude, future corridor restoration efforts in this location, including the building of one or more bridges for sheep..." and that, "Given the intensity of proposed development in these areas and associated fencing, it is very unlikely that bighorn sheep would be able to move across any developed area."

The potential value of establishing water sources in the North Soda Mountains in an effort to support a population of bighorn sheep in that range was first emphasized in the early 1970s, and the value of doing so to help restore connectivity between the South Soda Mountains and ranges to the north have been emphasized in the draft desert bighorn sheep management plan.<sup>5 6</sup> With that in mind, the potential value of existing underpasses along I-15 must not be diminished, despite speculation that the probability of their use by bighorn sheep is low because most of the existing culverts are <26.3 feet in width.<sup>7 8</sup>

The Departments review of available information, combined with the successes of extending the range of bighorn sheep through the development of additional water sources, leads to conclusion that development of a single water source, one on each side of I-15, is inadequate.<sup>9</sup> Department concludes that multiple water sources are necessary in an effort to encourage use by bighorn sheep on a year-round basis in the south end of the North Soda Mountains and to encourage use in the vicinity of the Department recommended wildlife bridges (Attachment 1) and existing culverts, which could increase the probability of movement by bighorn sheep.<sup>10 11</sup>

The Department concludes and recommends the construction and maintenance of six water developments in the vicinity of the project site has far greater potential to enhance the probability of movement by bighorn sheep than will two water developments

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<sup>5</sup> Weaver, R. A., and J. L. Mensch. 1970. Bighorn sheep in northwestern San Bernardino and southwestern Inyo counties. Wildlife Management Administrative Report 70-3. California Department of Fish and Game, Sacramento, USA.

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<sup>8</sup> Penrod, K., C. R. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, and C. Paulman. 2008. A linkage design for the Joshua Tree-Twenty-nine Palms Connection. South Coast Wildlands Project. Available at: <http://www.scwildlands.org/reports/Default.aspx#17>

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<sup>11</sup> California Department of Fish and Wildlife. 2012. A conservation plan for desert bighorn sheep in California. Draft of February 2012. California Department of Fish and Wildlife, Sacramento, USA.

designed to, "Encourage bighorn sheep to cross I-15 in a safe area."<sup>12</sup> The Department suggests these water developments be placed as follows, with the actual locations yet to be determined: (1) one in the north end of the North Soda Mountains, to provide this resource to any bighorn sheep that move southward to the North Soda Mountains from the Avawatz Mountains; (2) one further south, also in the North Soda Mountains, to provide water as animals expand their range in a southerly direction in the North Soda Mountains, in an effort to "stairstep" the population southward, as was done in the Sheephole Mountains;<sup>13</sup> (3) two water sources near, or at, selected culverts or wildlife bridges on the north side of I-15, to encourage animals to remain in the vicinity of those potential passageways (i.e., they would "bait" sheep to those sites and encourage use in those areas by providing a resource of value to the sheep); and, (4) two additional water developments at the south end of each of the wildlife bridges or culverts described in (3), above, again in an effort to "bait" sheep from the north end of the South Soda Mountains to the opening of the chosen culvert(s) or underpass(es).

It is extremely important that opportunities for bighorn sheep to move through the existing underpasses not be hindered. "The development of a solar power generation project between the North and South Soda Mountains would likely preclude such use of some of these underpasses."<sup>14</sup>

The Department has identified a wildlife bridge location (Attachment 1) that the project would preclude the sheep access to. The project as proposed also reduces sheep access to foraging habitat and escape terrain. To reduce impacts to bighorn sheep the Department recommends placing the project perimeter fence 0.25 miles from the 10% slope (Attachment 1) and leaving Razor Road in its existing location.

The DEIS/DEIR states that the Alternative A (Proposed Action) would have a significant and unavoidable impact on BHS and Alternatives B, C, and D may retain portions of the BHS movement corridor. As stated previously BHS are a fully protected species and the Department cannot authorize their take. The Department recommends the Lead Agency require the applicant implement the above mitigation measures. The installation of the wildlife bridges in conjunction with the installation of permanent water sources, placing the project perimeter fence .25 miles from the 10% slope and leaving Razor Road in its existing location would eliminate direct, indirect, cumulative impacts of the project and provide connectivity thus minimizing the loss of genetic diversity and conserve metapopulation function through greater stability, population size and increased gene flow.

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<sup>12</sup> Panorama Environmental, Inc. 2013. Bighorn sheep survey results and analysis, Soda Mountain Solar Project, BLM Case No. CACA-49584. Unpublished report. Panorama Environmental, Inc., San Francisco, California, USA.

<sup>13</sup> Bleich, V. C., M. C. Nicholson, A. T. Lombard, and P. V. August. 1992. Preliminary tests of mountain sheep habitat models using a geographic information system. Proceedings of the Biennial Symposium of the Northern Wild Sheep and Goat Council 8:256-263.

<sup>14</sup> Epps, C. W., J. D. Wehausen, R. J. Monello, and T. G. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity. Unpublished report. Oregon State University, Corvallis, USA.

### **Burrowing Owl**

The DEIS/DEIR states that impacts to BUOW shall be mitigated at a 1:1 ratio through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting this species. Mitigation recommendations for impacts to BUOW habitat are provided in the Department's 2012 Staff Report on Burrowing Owl Mitigation. The Department recommends the Lead Agency update the DEIS/DEIR to reflect these recommendations including avoidance, burrow exclusion and closure, translocation, and mitigation alternatives. The Department is available for further consultation on these issues as needed.

### **Desert Kit Fox**

The Department recommends the Lead Agency prepare a DKF Mitigation and Monitoring Plan and submit it to the Department for review and approval.

### **Mojave Fringe-toed Lizard**

Source sand and sand corridors are necessary for the long-term survivorship of an Aeolian sand specialist like the MFTL. Every effort should be made to ensure that sand transport continues to the dunes just outside the project and to the loose-sandy, Aeolian deposits in drainages.

### **Plants**

Mesquite, Smoke Tree, and cat claw acacia are plants that occur as part of desert wash habitat. The Department's mitigation ratio for desert wash is typically 3:1 for each plant impacted with a diameter of 2" or greater.

### **Streambed Alteration Notification**

Notification of a Streambed Alteration pursuant to Fish and Game Code §1600 *et. seq.* may be warranted for the Project. The Department has direct authority under Fish and Game Code §1600 *et. seq.* in regard to any proposed activity that would divert, obstruct, or affect the natural flow or change the bed, channel, or bank of any waterway. Departmental jurisdiction under §1600 *et. seq.* may apply to all lands within the 100-year floodplain. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams and watercourses with subsurface flow. Early consultation with the Department is recommended, since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources.

The Department, as a responsible agency under CEQA, may consider the local jurisdiction's (Lead Agency's) EIS/EIR for the Project. However, if the Draft EIS/EIR does not fully identify potential impacts to lakes, streams and associated resources (including, but not limited to, riparian and alluvial fan sage scrub habitat) and thus does



not provide adequate avoidance, mitigation, monitoring and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Streambed Alteration Agreement. The Department recommends to avoid delays or repetition of the CEQA process, potential impacts to a lake or stream, as well as avoidance and mitigation measures be discussed within this CEQA document.

In order for the Department to adequately assist the Lead Agency in determining the potential impacts of the Project, please forward the requested information outlined in this letter to Wendy Campbell, Environmental Scientist, at the Department of Fish and Wildlife Inland Deserts Region Bishop Field Office, 407 West Line Street, Suite 1, Bishop, CA 93514. Questions regarding this letter and further coordination on these issues should be directed to Ms. Campbell, at (760) 258-6921 or by email at [WCampbell@wildlife.ca.gov](mailto:WCampbell@wildlife.ca.gov).

Sincerely,

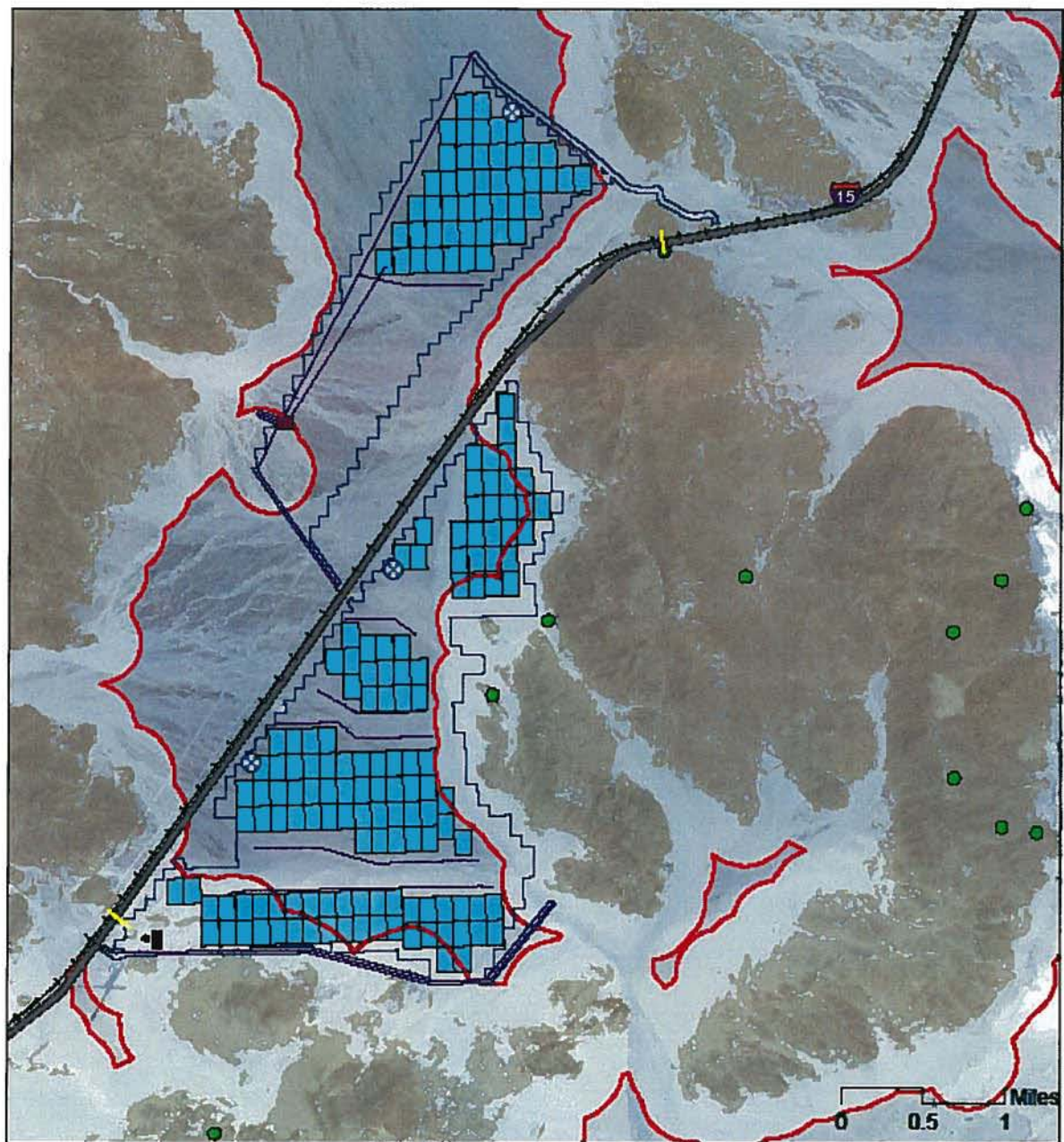
A handwritten signature in blue ink that reads "Heidi Sickler". The signature is written in a cursive, flowing style.

Heidi A. Sickler  
Senior Environmental Scientist

Attachment 1 – Project Map

cc: Wendy Campbell  
Chron

## ATTACHMENT 1 – Project Map



- |                                |                          |
|--------------------------------|--------------------------|
| Slope 10% or Greater           | SMS Proposed Polygons    |
| 25 mile Buffer for 10% Slope   | SMS Proposed ROW         |
| Desert Express Track Alignment | SMS Proposed Array       |
| Proposed Wildlife Bridge       | Proposed Well Points     |
| Bighorn Sightings or Sign      | SMS Water Diversion Berm |

Source:  
Solar project right of way and arrays, Razor Rd.  
realignment, proposed well points- Bechtel and  
Panorama Environmental, Inc. 2013

Desert bighorn sightings or sign - California Dept  
of Fish & Game, 2012; BRC 2011, and Panorama  
Environmental, Inc. 2012

Desert Express - Bureau of Land Management

Proposed wildlife bridge - California Dept. of Fish  
& Wildlife, 2013



# DEPARTMENT OF PUBLIC WORKS

FLOOD CONTROL • LAND DEVELOPMENT & CONSTRUCTION • OPERATIONS  
SOLID WASTE MANAGEMENT • SURVEYOR • TRANSPORTATION

825 East Third Street • San Bernardino, CA 92415-0835 • (909) 387-8104  
Fax (909) 387-8130



COUNTY OF SAN BERNARDINO

GERRY NEWCOMBE  
Director of Public Works

January 15, 2014

File: 10(ENV)-4.01

Bureau of Land Management  
California Desert District Office  
Attn: Jeff Childers  
22835 Calle de Los Lagos  
Moreno Valley, CA. 92553

**RE: CEQA – NOTICE OF AVAILABILITY FOR A DRAFT ENVIRONMENTAL IMPACT STATEMENT/ DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SODA MOUNTAIN SOLAR PROJECT FOR THE BUREAU OF LAND MANAGEMENT**

Mr. Childers:

Thank you for giving the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. **We received this request on December 3, 2013,** and pursuant to our review, the following comments are provided:

**Transportation Planning Division (Omar Gonzalez, PWE III, 909-387-8164):**

1. The project proposes to realign 2.6 miles of Razor Road, and the new road is proposed to be 26' wide (page 3.16-6). Per the circulation element, Razor Road is designated as a secondary highway with a right of way width of 88'. Sufficient right of way should be reserved for the ultimate circulation element build-out.

Should you have any questions, please contact the individuals who provided the specific comment, as listed above.

Sincerely,

A handwritten signature in blue ink, appearing to read "Annesley Ignatius", with a large "E" written to the left.

**ANNESLEY IGNATIUS, P.E.**  
Deputy Director – Environmental & Construction

ARI:PE:nh/CEQA Comments\_DEISDEIR\_BLM\_Soda Mountain Solar



State of California - Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Wildlife Branch  
1812 9<sup>th</sup> Street  
Sacramento, CA 95811  
www.dfg.ca.gov

EDMUND G. BROWN, Jr., Governor  
CHARLTON H. BONHAM, Director



March 3, 2014

Mr. Chris Conner  
San Bernardino County Land Use Services Department  
385 N. Arrowhead Avenue  
San Bernardino, CA 92415-0182

**Subject: Soda Mountain Solar Project, Draft Environmental Impact Statement /Environmental Impact Report, State Clearinghouse Number# 2012101075**

Dear Mr. Conner:

The California Department of Fish and Wildlife (Department) has reviewed the Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (DEIR) prepared by the Bureau of Land Management (BLM) and the County of San Bernardino (Lead Agency) for the Soda Mountain Solar Project (Project). A comment letter, dated January 3, 2014 was submitted and can be found attached.

In addition to comments provided by the Department in the January 3, 2014 letter, we want to update the Lead Agency on new and developing information regarding bighorn sheep in the southern Soda Mountains.

In November 2014, in response to a disease outbreak, the Department and partners captured and collared BHS in several desert mountain ranges. Four adult female bighorn sheep were affixed with VHF and GPS collars in the southern Soda Mountains. The GPS collars will monitor daily movements of the ewes and their use of the available habitat. While this data can only be collected via recapture or remote download, remote download field observations of the marked sheep have revealed their use of the range near Razor Road, a great distance from the area where they were captured on the main mass of the southern Soda Mountains, suggesting bighorn use the low elevation land, potentially in the project scope, to move between rocky slopes. The Department recommends that consideration be given to allow sheep movements to continue to move freely as further restricting opportunities for movement would be detrimental to the persistence of bighorn sheep. To minimize impacts to bighorn sheep, again, the Department recommends placing the project perimeter fence 0.25 miles from the 10% slope and leaving Razor Road in its existing location.

The Department recommends the Lead Agency require the applicant implement the above mitigation measures, as well as those previously recommended in the attached comment letter. The measures would eliminate direct, indirect, cumulative impacts of the project and minimize loss of connectivity thus minimizing the loss of genetic diversity and conserve metapopulation function through greater stability, population size and increased gene flow.

*Conserving California's Wildlife Since 1870*



Mr. Chris Conner  
Soda Mountain Solar DEIS/DEIR  
March 3, 2014  
Page 2 of 2

Questions regarding this letter or coordination on this issue should be directed to Ms. Regina Abella, Environmental Scientist, at the Department of Fish and Wildlife, 1812 9<sup>th</sup> Street, Sacramento, CA 95811, by email [Regina.Abella@wildlife.ca.gov](mailto:Regina.Abella@wildlife.ca.gov) , or by phone at (916) 445-3728.

Sincerely,

A handwritten signature in black ink, appearing to be 'Eric Loft', with a long horizontal flourish extending to the right.

Eric Loft, Ph.D, Chief  
Wildlife Branch



State of California - Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Inland Deserts Region  
407 West Line Street  
Bishop, California 93514  
www.dfg.ca.gov

**EDMUND G. BROWN, Jr.**, Governor  
**CHARLTON H. BONHAM**, Director



January 6, 2014

Mr. Chris Conner  
San Bernardino County Land Use Services Department  
385 N. Arrowhead Avenue  
San Bernardino, Ca 92415-0182

**Subject: Soda Mountain Solar Project, Draft Environmental Impact Statement  
/Environmental Impact Report, State Clearinghouse Number# 2012101075**

Dear Mr. Conner:

The California Department of Fish and Wildlife (Department) has reviewed the Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (DEIR) prepared by the Bureau of Land Management (BLM) and the County of San Bernardino (Lead Agency) for the Soda Mountain Solar Project, hereinafter referred to as the Project. The Project, proposed by Soda Mountain Solar, LLC, is for the construction, operation, maintenance, and decommissioning of approximately 2,455.57-acres, 358-megawatt (MW) alternating current (AC) solar photovoltaic (PV) energy generation plant, interconnection (gen-tie) transmission line, operations and maintenance of facilities, and site access roads. The Project is located in central San Bernardino County, California, entirely on BLM-administered lands, approximately six miles southwest of the town of Baker, California.

The Department is providing comments on the Draft EIS/EIR as the State agency which has the statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish and Game Code (FGC) §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). The Department's fish and wildlife management functions are implemented through its administration and enforcement of the Fish and Game Code (FGC §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, Title 14 California Code of Regulations (CCR) §15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

**Regulatory Authority**

**Incidental Take Permit:** The Department has regulatory authority over projects that could result in "take" of any species listed by the State as threatened or endangered,

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pursuant to the California Endangered Species Act (CESA). If a project could result in take of any species listed as threatened or endangered under CESA, an Incidental Take Permit (ITP) pursuant to Fish and Game code Section 2081(b) for the project would be warranted. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (sections 21001{c}, 21083, Guidelines sections 15380,15064,15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports Statements of Overriding Consideration (SOC). The CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with CESA.

**Fully Protect Species:** The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and the Department cannot authorize their take for development. The Department recommends the DEIS/DEIR evaluate and address Project related impacts to fully protected species and include appropriate species specific avoidance measures.

**Bird Protection:** The Department has jurisdiction over actions that may result in the disturbance or destruction of active nests sites or the take of birds. Sections of the Fish and Game Code that protect birds, their eggs, and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory non-game bird).

### **General Comments**

The Project is in the range of the desert tortoise (*Gopherus agassizii*, DT), which is listed as threatened under the CESA; the golden eagle (*Aquila chrysaetos*, GE) and the American peregrine falcon (*Falco peregrinus anatum*, APF) both of which are Fully Protected Species under FGC Section 3511; Nelson's bighorn sheep (*Ovis canadensis nelsoni*, BHS), which is a Fully Protected Species under FGC Section 4700; the burrowing owl (*Athene cunicularia*, BUOW), which is a Species of Special Concern and protected under FGC Section 3503.5; the prairie falcon (*Falco mexicanus*, PF), loggerhead shrike (*Lanius ludovicianus*, LHS), Le Conte's thrasher (*Toxostoma lecontei*, LCT), American badger (*Taxidea taxus*, AB), and Mojave fringe-toed lizard (*Uma scoparia*, MFTL), all of which are listed as a State Species of Special Concern; and the desert kit fox (*Vulpes macrotis arsipus*, DKF), DKF is addressed in Title 14 of the California Code of Regulations: §460. "Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time." DKF is also addressed under the FGC Section: §4000 "Fur-bearing mammals enumerated. The following are fur-bearing mammals: pine marten, fisher, mink, river otter, gray fox, red fox, kit fox, raccoon, beaver, badger, and muskrat."

The DEIS/DEIR states that a DT Translocation Plan, Burrowing Owl Mitigation and Monitoring Plan, and Bird and Bat Conservation Strategy shall be developed. The above mentioned plans along with DKF Mitigation and Monitoring Plan, Raven Control

Plan, Cacti Salvage Plan, and an Eagle Conservation Plan need to be included as attachments to the DEIS/DEIR so they can be reviewed in order to determine the environmental impacts of the Project.

The DEIS/DEIR describes the Project right-of-way as being 4,179 acres in size. Alternative A (Proposed Action) has 2,455.57 acres of vegetation disturbance, Alternative B will remove 1,811.9 acres of vegetation, Alternative C will remove 2,021.60 acres of vegetation, and Alternative C will remove 1,868.96 acres of vegetation. The Project right-of-way should reflect the acres of vegetation disturbance.

The Project is located south of the Soda Mountains and north of the Razor Road Off-Highway Vehicle Area and Mojave National Preserve. The effects of the Project combined with those of past and reasonably foreseeable future projects as well as natural constraints, appear to potentially impair or sever connectivity for DT and BHS. The Department recommends the Lead Agency include additional disclosure and analyses on connectivity issues the Project may impose on DT and BHS.

### **Desert Tortoise**

The DEIS/DEIR uses the term “clearance survey” for activities associated with the DT. We infer from this that DT would be moved if found on site. Movement of DT would entail take under CESA. As such, the Developer would be warranted to apply for and obtain an ITP from the Department before moving or otherwise handling DT.

The Road and Fence Plan (Plan) states that vehicles and equipment will access the buried conductor lines on the north side of I-15 via Opah Ditch Mine Road or through overland routes for maintenance of the conductor lines located outside of the array blocks. The Plan further states that accessing buried conductor cable southeast of I-15 for maintenance activities will be from the main access road, internal access roads, or overland routes. Figure 2-1, 2-5, 2-6, and 2-7 in the DEIS/DEIR shows Inter Array Access Roads, Collector Corridors, and Flood Protection Berms as having temporary DT exclusion fence installed around the outer perimeter of the construction work areas including the outer perimeter of roadways, substation, and collector lines routes to prevent DT from entering the areas of active construction. The Plan states that the solar array fields will be completely fenced with permanent combined DT and security fencing and that all temporary DT exclusion fence between the array fields will be removed at the completion of construction. The Department wants to remind the Lead Agency that all project related activities within the ROW that occur outside the maintained permanent DT exclusion fence will need to be monitored for the life of the project by a designated biologist.

The DEIS/DEIR Protocol DT Survey estimate of abundance (with confidence intervals) is based on the sample of live DT observed during site surveys that are great then 160 millimeter (mm) midline carapace length (MCL). The Department includes *all* DT observed above ground regardless of size to estimate DT numbers within a project area (which includes the linear components of a project, such as perimeter fence, roads, and

transmission lines). The Department recommends revising the DT estimate of abundance using *all* live DT observed and updating the DEIS/DIER accordingly

**Golden Eagle, American Peregrine Falcon, Prairie Falcon, Le Conte's Thrasher, and American Badger**

The DEIS/DEIR states that BHS and GE surveys were performed concurrently in March and May 2011. It is not clear if the surveys for BHS were done by the same people at the same time as the GE surveys. The Department does not support the same people conducting surveys concurrently for multiple species because it increases the chance that a species can be overlooked.

If the Project activities cannot feasibly avoid the breeding bird season, the Department recommends the Lead Agency require the Developer to comply with statute regarding nesting birds.

**Nelson's Bighorn Sheep**

The Department emphasizes the importance of re-establishing and maintaining connectivity between the South Soda Mountains and North Soda Mountains in terms of demographic and genetic benefits, and the importance of both to maintaining metapopulation function. The Department also noted the early recognition of the importance of preventing additional restrictions to movement in the vicinity of these ranges.<sup>1</sup> More than 40 years ago, and in comments specific to the Soda Mountains, it was recognized that consideration should be given to allowing for sheep movements and that construction of any facilities that would further restrict opportunities for movement would be detrimental to the persistence of bighorn sheep.<sup>2</sup>

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preclude, future corridor restoration efforts in this location, including the building of one or more bridges for sheep..." and that, "Given the intensity of proposed development in these areas and associated fencing, it is very unlikely that bighorn sheep would be able to move across any developed area."

The potential value of establishing water sources in the North Soda Mountains in an effort to support a population of bighorn sheep in that range was first emphasized in the early 1970s, and the value of doing so to help restore connectivity between the South Soda Mountains and ranges to the north have been emphasized in the draft desert bighorn sheep management plan.<sup>5 6</sup> With that in mind, the potential value of existing underpasses along I-15 must not be diminished, despite speculation that the probability of their use by bighorn sheep is low because most of the existing culverts are <26.3 feet in width.<sup>7 8</sup>

The Departments review of available information, combined with the successes of extending the range of bighorn sheep through the development of additional water sources, leads to conclusion that development of a single water source, one on each side of I-15, is inadequate.<sup>9</sup> Department concludes that multiple water sources are necessary in an effort to encourage use by bighorn sheep on a year-round basis in the south end of the North Soda Mountains and to encourage use in the vicinity of the Department recommended wildlife bridges (Attachment 1) and existing culverts, which could increase the probability of movement by bighorn sheep.<sup>10 11</sup>

The Department concludes and recommends the construction and maintenance of six water developments in the vicinity of the project site has far greater potential to enhance the probability of movement by bighorn sheep than will two water developments

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<sup>8</sup> Penrod, K., C. R. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, and C. Paulman. 2008. A linkage design for the Joshua Tree-Twenty-nine Palms Connection. South Coast Wildlands Project. Available at: <http://www.scwildlands.org/reports/Default.aspx#17>

<sup>9</sup> Panorama Environmental, Inc. 2013. Bighorn sheep survey results and analysis, Soda Mountain Solar Project, BLM Case No. CACA-49584. Unpublished report. Panorama Environmental, Inc., San Francisco, California, USA.

<sup>10</sup> Weaver, R. A., and J. L. Mensch. 1970. Bighorn sheep in northwestern San Bernardino and southwestern Inyo counties. Wildlife Management Administrative Report 70-3. California Department of Fish and Game, Sacramento, USA.

<sup>11</sup> California Department of Fish and Wildlife. 2012. A conservation plan for desert bighorn sheep in California. Draft of February 2012. California Department of Fish and Wildlife, Sacramento, USA.

designed to, "Encourage bighorn sheep to cross I-15 in a safe area."<sup>12</sup> The Department suggests these water developments be placed as follows, with the actual locations yet to be determined: (1) one in the north end of the North Soda Mountains, to provide this resource to any bighorn sheep that move southward to the North Soda Mountains from the Avawatz Mountains; (2) one further south, also in the North Soda Mountains, to provide water as animals expand their range in a southerly direction in the North Soda Mountains, in an effort to "stairstep" the population southward, as was done in the Sheephole Mountains;<sup>13</sup> (3) two water sources near, or at, selected culverts or wildlife bridges on the north side of I-15, to encourage animals to remain in the vicinity of those potential passageways (i.e., they would "bait" sheep to those sites and encourage use in those areas by providing a resource of value to the sheep); and, (4) two additional water developments at the south end of each of the wildlife bridges or culverts described in (3), above, again in an effort to "bait" sheep from the north end of the South Soda Mountains to the opening of the chosen culvert(s) or underpass(es).

It is extremely important that opportunities for bighorn sheep to move through the existing underpasses not be hindered. "The development of a solar power generation project between the North and South Soda Mountains would likely preclude such use of some of these underpasses."<sup>14</sup>

The Department has identified a wildlife bridge location (Attachment 1) that the project would preclude the sheep access to. The project as proposed also reduces sheep access to foraging habitat and escape terrain. To reduce impacts to bighorn sheep the Department recommends placing the project perimeter fence 0.25 miles from the 10% slope (Attachment 1) and leaving Razor Road in its existing location.

The DEIS/DEIR states that the Alternative A (Proposed Action) would have a significant and unavoidable impact on BHS and Alternatives B, C, and D may retain portions of the BHS movement corridor. As stated previously BHS are a fully protected species and the Department cannot authorize their take. The Department recommends the Lead Agency require the applicant implement the above mitigation measures. The installation of the wildlife bridges in conjunction with the installation of permanent water sources, placing the project perimeter fence .25 miles from the 10% slope and leaving Razor Road in its existing location would eliminate direct, indirect, cumulative impacts of the project and provide connectivity thus minimizing the loss of genetic diversity and conserve metapopulation function through greater stability, population size and increased gene flow.

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<sup>12</sup> Panorama Environmental, Inc. 2013. Bighorn sheep survey results and analysis, Soda Mountain Solar Project, BLM Case No. CACA-49584. Unpublished report. Panorama Environmental, Inc., San Francisco, California, USA.

<sup>13</sup> Bleich, V. C., M. C. Nicholson, A. T. Lombard, and P. V. August. 1992. Preliminary tests of mountain sheep habitat models using a geographic information system. Proceedings of the Biennial Symposium of the Northern Wild Sheep and Goat Council 8:256–263.

<sup>14</sup> Epps, C. W., J. D. Wehausen, R. J. Monello, and T. G. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity. Unpublished report. Oregon State University, Corvallis, USA.

### **Burrowing Owl**

The DEIS/DEIR states that impacts to BUOW shall be mitigated at a 1:1 ratio through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting this species. Mitigation recommendations for impacts to BUOW habitat are provided in the Department's 2012 Staff Report on Burrowing Owl Mitigation. The Department recommends the Lead Agency update the DEIS/DEIR to reflect these recommendations including avoidance, burrow exclusion and closure, translocation, and mitigation alternatives. The Department is available for further consultation on these issues as needed.

### **Desert Kit Fox**

The Department recommends the Lead Agency prepare a DKF Mitigation and Monitoring Plan and submit it to the Department for review and approval.

### **Mojave Fringe-toed Lizard**

Source sand and sand corridors are necessary for the long-term survivorship of an Aeolian sand specialist like the MFTL. Every effort should be made to ensure that sand transport continues to the dunes just outside the project and to the loose-sandy, Aeolian deposits in drainages.

### **Plants**

Mesquite, Smoke Tree, and cat claw acacia are plants that occur as part of desert wash habitat. The Departments mitigation ratio for desert wash is typically 3:1 for each plant impacted with a diameter of 2" or greater.

### **Streambed Alteration Notification**

Notification of a Streambed Alteration pursuant to Fish and Game Code §1600 *et. seq.* may be warranted for the Project. The Department has direct authority under Fish and Game Code §1600 *et. seq.* in regard to any proposed activity that would divert, obstruct, or affect the natural flow or change the bed, channel, or bank of any waterway. Departmental jurisdiction under §1600 *et. seq.* may apply to all lands within the 100-year floodplain. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams and watercourses with subsurface flow. Early consultation with the Department is recommended, since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources.

The Department, as a responsible agency under CEQA, may consider the local jurisdiction's (Lead Agency's) EIS/EIR for the Project. However, if the Draft EIS/EIR does not fully identify potential impacts to lakes, streams and associated resources (including, but not limited to, riparian and alluvial fan sage scrub habitat) and thus does



not provide adequate avoidance, mitigation, monitoring and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Streambed Alteration Agreement. The Department recommends to avoid delays or repetition of the CEQA process, potential impacts to a lake or stream, as well as avoidance and mitigation measures be discussed within this CEQA document.

In order for the Department to adequately assist the Lead Agency in determining the potential impacts of the Project, please forward the requested information outlined in this letter to Wendy Campbell, Environmental Scientist, at the Department of Fish and Wildlife Inland Deserts Region Bishop Field Office, 407 West Line Street, Suite 1, Bishop, CA 93514. Questions regarding this letter and further coordination on these issues should be directed to Ms. Campbell, at (760) 258-6921 or by email at [WCampbell@wildlife.ca.gov](mailto:WCampbell@wildlife.ca.gov).

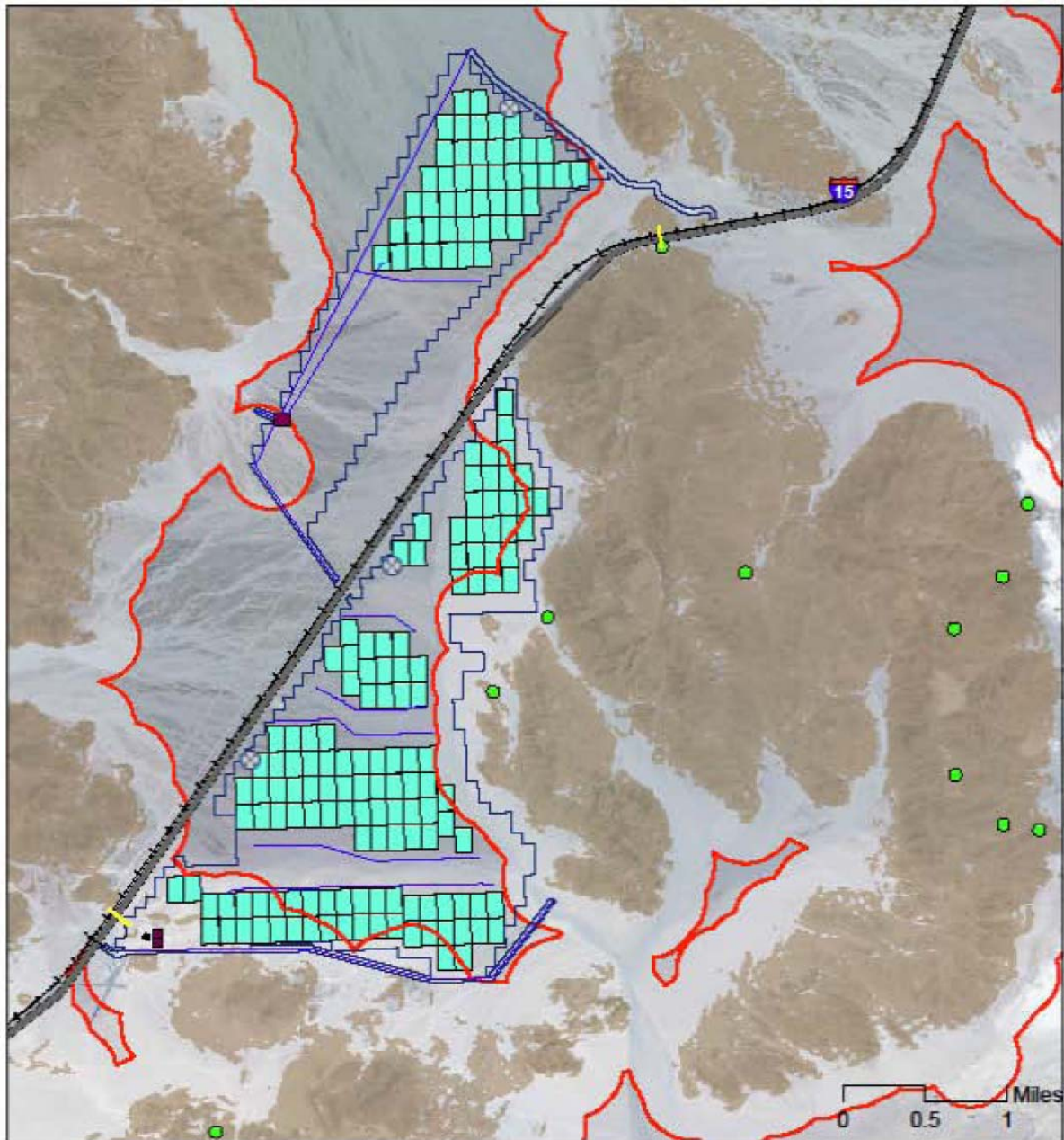
Sincerely,

Heidi A. Sickler  
Senior Environmental Scientist

Attachment 1 – Project Map

cc: Wendy Campbell  
Chron

## ATTACHMENT 1 – Project Map



- |                                |                          |
|--------------------------------|--------------------------|
| Slope 10% or Greater           | SMS Proposed Polygons    |
| .25 mile Buffer for 10% Slope  | SMS Proposed ROW         |
| Desert Express Track Alignment | SMS Proposed Array       |
| Proposed Wildlife Bridge       | Proposed Well Points     |
| Bighorn Sightings or Sign      | SMS Water Diversion Berm |

Source:  
Solar project right of way and arrays, Razor Rd. realignment, proposed well points- Bechtel and Panorama Environmental, Inc. 2013

Desert bighorn sightings or sign - California Dept of Fish & Game, 2012; BRC 2011, and Panorama Environmental, Inc. 2012

Desert Express - Bureau of Land Management

Proposed wildlife bridge - California Dept. of Fish & Wildlife, 2013



## Lahontan Regional Water Quality Control Board

March 4, 2014

File: Environmental Doc Review  
San Bernardino County

Chris Conner, Senior Planner  
San Bernardino County Land Use Services  
385 N. Arrowhead Avenue  
San Bernardino, CA 92415  
Email: [cconner@lusd.sbcounty.gov](mailto:cconner@lusd.sbcounty.gov)

### **COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT AND DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SODA MOUNTAIN SOLAR PROJECT, SAN BERNARDINO COUNTY, STATE CLEARINGHOUSE NO. 2012101075**

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received a combined Draft Environmental Impact Report (DEIR) and Draft Environmental Impact Statement (DEIS) for the above-referenced project (Project) on December 4, 2013. The County of San Bernardino (County), together with the Bureau of Land Management (BLM), has prepared a Joint DEIR/DEIS for the Project in compliance with provisions of the California Environmental Quality Act (CEQA) and with the provisions of the National Environmental Policy Act (NEPA).

Water Board staff, acting as a responsible agency, are providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations, title 14, section 15096. Based on our review of the DEIR, we have determined that (1) the onsite waste management units (brine ponds) must be designed according to the classification of the waste (reverse osmosis effluent) that will be discharged, (2) natural drainage channels should be maintained to ensure that no net loss of function and value will occur as a result of Project implementation, and (3) best management practices (BMPs) that effectively treat post-construction storm water runoff should be included in Project development.

### **Project Description**

The proposed Project is a 358 megawatt photovoltaic (PV) solar facility and comprises construction and operation of solar arrays, access roads, collector lines, a substation, a switchyard, and ancillary buildings and other infrastructure. The Project site is approximately 2,600 acres of BLM-administered land in unincorporated San Bernardino County. The Project site straddles Interstate 15 and is located approximately 6 miles southwest of Baker. Much of the surrounding area in the site vicinity is undeveloped native desert lands.

### **Authority**

All groundwater and surface waters are considered waters of the State. Surface waters include streams, lakes, ponds, and wetlands, and may be ephemeral, intermittent, or



perennial. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the U.S. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the U.S.

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at [http://www.waterboards.ca.gov/lahontan/water\\_issues/programs/basin\\_plan/references.shtml](http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml).

### Specific Comments

1. Groundwater beneath the site will be used for ongoing operation and maintenance activities. Once the Project is approved, a groundwater analysis will be conducted to determine the need and level of groundwater treatment. For the purposes of the EIR, the Project proponent assumes that a reverse osmosis system would be used to reduce total dissolved solids concentrations to acceptable levels for potable water use, fire suppression, and PV panel washing. The high TDS effluent from the treatment system would be discharged to on-site brine ponds, where the liquid would be allowed evaporate. Such activities constitute a discharge of waste (reverse osmosis effluent) to land.

The Water Board's regulate discharges of waste to land under California Code of Regulations, title 27. The siting and construction design criteria for the containment structure is dependent upon the classification of the waste proposed for disposal. The Water Board requires that all waste proposed for land disposal be characterized in accordance with the *Designated Level Methodology for Waste Classification and Cleanup Level Determination* (October 1986, updated June 1989). An electronic copy of that report can be accessed online at [http://www.waterboards.ca.gov/rwqcb5/plans\\_policies/guidance/dlm.pdf](http://www.waterboards.ca.gov/rwqcb5/plans_policies/guidance/dlm.pdf). Depending on the concentration of the constituents in the waste, such waste may warrant classification and disposal as a hazardous or designated waste.

2. All surface waters are waters of the State. Some waters of the State are "isolated" from waters of the U.S. Determinations of the jurisdictional extent of the waters of the U.S. are made by the United States Army Corps of Engineers (USACE). Please provide Water Board staff with a copy of the USACE Approved Jurisdictional Determination (dated August 2013) referenced in the DEIR.
3. For unavoidable impacts to surface waters, the Project must incorporate specific mitigation measures that, when implemented, minimize those unavoidable impacts to a less than significant level to ensure that no net loss of function and value will occur as a result of Project implementation. For example, natural drainage channels should be maintained to avoid and minimize impact to function and value, and where feasible, at-grade road crossings are preferred over culverted crossings.

Culverted road crossings must be designed to adequately pass storm flows without impoundment upstream and sufficient energy dissipation must be provided at the outlet to reduce flow velocities to pre-project conditions. The rock slope protection should be ungrouted and the minimum amount necessary to provide scour protection.

4. The EIR must identify the water quality standards that could potentially be violated by the Project and use these standards when evaluating thresholds of significance for Project impacts. Water quality objectives and standards, both numerical and narrative, for all waters of the State within the Lahontan Region, including surface waters and groundwater, are outlined in Chapter 3 of the Basin Plan. Water quality objectives and standards are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water.
5. The Project area is located within the Soda Lake Hydrologic Areas of the Mojave Hydrologic Unit 628.00. The beneficial uses of these water resources are listed in Chapter 2 of the Basin Plan. We request that the EIR identify and list the beneficial uses of the water resources within the Project area, and include an analysis of the potential impacts to water quality and hydrology with respect to those beneficial uses.
6. Post-construction storm water management must be considered a significant Project component, and BMPs that effectively treat post-construction storm water runoff should be included as part of the Project. The DEIR needs to specify temporary and permanent sediment and erosion control BMPs that will be implemented to mitigate potential water quality impacts related to storm water. The temporary BMPs need to be implemented for the Project until such time that vegetation has been restored to pre-Project conditions or permanent BMPs are in-place and functioning.
7. Vegetation clearing should be kept to a minimum. Where feasible, existing vegetation should be mowed so that after construction the vegetation could more easily be re-established and help mitigate for potential storm water impacts.
8. All temporary impact areas should be restored (recontoured, decompacted, and revegetated) to match pre-Project conditions. We recommend that the upper six inches of top-soil be retained and used as a final cover (and supplemental seed source) over the temporary impact areas.
9. Construction staging areas should be sited in upland areas outside stream channels and other surface waters on or around the Project site, and construction equipment should use existing roadways to the extent feasible. Equipment ingress and egress has the potential to result in additional impacts to water resources. These access points must be identified and mitigation to restore these areas to pre-Project conditions or to compensate for permanent impacts to water resources must be identified.



10. Obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the best management practices and other measures used to mitigate Project impacts.

### Permitting Requirements

A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board. The required permits are outlined below.

11. Streambed alteration and/or discharge of fill material to a surface water may require a Clean Water Act (CWA), section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. The Water Quality Certification/Dredge-Fill Waste Discharge Requirements application form can be accessed online at [http://www.waterboards.ca.gov/lahontan/publications\\_forms/forms/index.shtml](http://www.waterboards.ca.gov/lahontan/publications_forms/forms/index.shtml).

Compensatory mitigation will be required for all unavoidable permanent impacts to surface water resources. Water Board staff coordinate all mitigation requirements with staff from other federal and state regulatory agencies, including the United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife. In determining appropriate mitigation ratios for impacts to waters of the State, Water Board staff considers Basin Plan requirements (minimum 1.5:1 mitigation ratio for impacts to wetlands) and utilizes *12501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios*, published December 2012 by the USACE, South Pacific Division.

12. Land disposal of waste, either solid or liquid, is regulated under waste discharge requirements issued by the Water Board pursuant to CCR, title 27.

Pursuant to sections 13160 and 13260 of the California Water Code (CWC), project proponents are required to file with the Water Board a complete Report of Waste Discharge (RWD) for discharges or proposed discharges of waste. The RWD must fully describe the proposed discharge and be filed with the Water Board at least 140 days before the discharge occurs, pursuant to section 13264 of the CWC. Failure to file a complete RWD before discharging, or discharging without regulatory authorization, may result in substantial civil or criminal penalties in accordance with CWC, section 13261.

The RWD application form (Form 200) can be accessed online at [http://www.waterboards.ca.gov/lahontan/publications\\_forms/forms/index.shtml](http://www.waterboards.ca.gov/lahontan/publications_forms/forms/index.shtml). Environmental documents, technical reports, plans, diagrams, maps, mitigation and monitoring proposals, and other documents that characterize the discharge must be included with the RWD.

13. Land disturbances of more than 1 acre may require a CWA, section 402(p) storm water permit, including a National Pollution Discharge Elimination System (NPDES) General Construction Storm Water Permit, Order 2009-0009-DWQ (as amended), obtained from the State Water Board, or an individual storm water permit obtained from the Lahontan Water Board.
14. Discharge of low threat wastes to water or land, including water diversion and or/dewatering activities, well development and purge water, and inert wastes, may be subject to discharge and monitoring requirements under either NPDES General Permit, Limited Threat Discharges to Surface Waters, Board Order R6T-2008-0023, or General Waste Discharge Requirements for Discharges to Land with a Low Threat To Water Quality, WQO-2003-0003, both issued by the Lahontan Water Board.

We request that specific Project activities that may trigger these permitting actions be identified in the appropriate sections of the environmental document. Should Project implementation result in activities that will trigger these permitting actions, the Project proponent must consult with Water Board staff. Information regarding these types of permits can be obtained from our web site at <http://www.waterboards.ca.gov/lahontan/>.

Thank you for the opportunity to comment on the DEIR/DEIS. If you have any questions regarding this letter, please contact me at (760) 241-7376 ([jan.zimmerman@waterboards.ca.gov](mailto:jan.zimmerman@waterboards.ca.gov)) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 ([patrice.copeland@waterboards.ca.gov](mailto:patrice.copeland@waterboards.ca.gov)).



Jan M. Zimmerman, PG  
Engineering Geologist

cc: State Clearinghouse (SCH 2012101075)  
(via email, [state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))  
Jeff Childer, Bureau of Land Management  
(via email, [jchilder@blm.gov](mailto:jchilder@blm.gov))  
Susan Heim, Panarama Environmental  
(via email, [Susanne.heim@panaramaenv.com](mailto:Susanne.heim@panaramaenv.com))  
Tobi Tyler, Lahontan Regional Water Board (SLT)  
(via email, [tobi.tyler@waterboards.ca.gov](mailto:tobi.tyler@waterboards.ca.gov))



# **NATIVE AMERICAN TRIBES**

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## Comment Letters



CULTURAL CENTER

December 3, 2013



ESA Energy  
550 Kearny ST  
STE 500  
San Francisco, CA 94108

Dear Sir or Ms,

We are in receipt of your letter regarding the Soda Mountain Solar Project, dated November 27, 2013. Having reviewed the Draft PA/EIS/EIR, we have no specific comments. However, if, during construction, there is evidence of a burial site or material objects, we request all activity cease and for us to be contacted immediately.

Sincerely,

Jay Cravath, Ph.D.  
Cultural Director

# **APPLICANT**

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## Comment Letters



March 3, 2014

Mr. Jeffrey Childers  
BLM Project Manager, Soda Mountain Solar Project  
U.S. Bureau of Land Management  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA92553

Ms. Tracy Creason  
Senior Planner, Land Use Services Department  
County of San Bernardino  
385 North Arrowhead Avenue, First Floor  
San Bernardino, CA 92415-0187

**Subject:       Comments on Soda Mountain Solar Project Draft Plan Amendment/  
                  Environmental Impact Statement/Environmental Impact Report**

Dear Mr. Childers and Ms. Creason,

Soda Mountain Solar, LLC (SMS) has reviewed the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report (PA/EIS/EIR) for the Soda Mountain Solar Project (Project). Our comments on the Draft PA/EIS/EIR are enclosed in Appendix A. SMS thanks the BLM and the County for your joint effort in preparing the PA/EIS/EIR. It is clear that great effort went into preparation of the document.

The applicant has worked closely with BLM on this Project since 2008, when the initial Project application was filed by Caithness Soda Mountain. As a direct result of the applicant's work with you, SMS has since reduced the Project footprint by 36 percent and the Project right-of-way by 56 percent, resulting in reduced impacts to:

- Cultural resources
- Utilities
- Sensitive plants
- Wildlife
- Wildlife connectivity
- Water resources
- Aesthetics and visual resources

The studies that we have conducted of the Project area and potential off-site locations support our assessment that the Project site is highly suitable for solar development and that an off-site alternative is neither feasible nor more environmentally favorable. Aspects of the Project area that make it suitable for solar development include:

- No impacts to potentially significant cultural resources
- Special-status plants can be avoided
- Few desert tortoise are located in the valley (estimate is 2 for the Project area)
- Adjacent to transmission infrastructure eliminating the associated impacts of a generation tie line -
- Located within a BLM-designated utility corridor pursuant to Congressional - mandate -
- Direct access to I-15
- Surrounded by the Soda Mountains, which reduce visibility of the Project from the - Mojave National Preserve, the Rasor Off-highway Vehicle area, and Highway I-15 -

The applicant has also worked hard to identify and adopt best practice design features to mitigate many of the Project's potential environmental effects in advance of NEPA and CEQA review, sometimes beyond what either statute requires under existing baseline conditions. Without requesting changes to the mitigation measures of the PA/EIS/EIR on this score alone, we respectfully refer you to Appendix B of this letter, which consists of a table demonstrating the extraordinary extent to which SMS anticipated and self-imposed the mitigation measures of the draft PA/EIS/EIR.

Solar energy currently makes up 1 percent of the United States energy market. Large utility scale projects and roof-top solar are both needed to achieve the State of California's renewable portfolio standards and the 20,000 MW public lands goal of President Obama's Climate Action Plan. The Project will also provide significant jobs and revenues to San Bernardino County.

Thank you for considering our comments on the PA/EIS/EIR. SMS is committed to working with the BLM, County, and other state and federal regulatory agencies to develop a Project consistent with all applicable legal and regulatory requirements.

Respectfully,

/s/

Adriane Wodey  
SMS Project Manager

Mr. Jeff Childers  
Ms. Tracy Creason  
March 3, 2014  
Page 3

Enclosures: - SMS Comments on the Draft PA/EIS/EIR  
Correspondence of Soda Mountain Solar APMs to Draft PA/EIS/EIR Mitigation  
Measures





**Table A 1: Comments on Soda Mountain Solar PA/EIS/EIR**

<b>Page (paragraph)</b>	<b>Comment</b>
<b>Executive Summary</b>	
ES-7	2nd Row, 5th Col.: Please replace dual decimals with single decimal.
<b>Environmental Analysis</b>	
1-10	8th Row, 2nd Col.: This table indicates that a NPDES construction permit will be obtained "if required". Please see our comment on page 3.19-20 (3), below. There are no federal waters on the project site.
2-37	The last paragraph is a duplicate. Please delete.
2-42	Section 2.83: Please clarify that BLM has no authority over demand-side management.
<b>Introduction</b>	
3.1-9	Last Row, 4th Col: Needs to be updated.
3.1-10	Second to Last Row, Last Col.: Please clarify mining claim date ranges.
<b>Air Quality</b>	
3.2-3 (3)	Add to beginning of section titled "Ozone (O3)": "As noted above, the Project area currently is designated as a non-attainment area for the state 1-hour and 8-hour ozone standards, the state PM10 24-hour standard, and the federal PM10 24-hour standard. The southern portion of the Project site that is within the Western Mojave Desert Ozone Non-attainment Area, which is classified as a non-attainment area for the federal 8-hour ozone standard and the state PM2.5 annual standard. See Figure 3.2-1 for an illustration of the portion of the Project site that is within the Western Mojave Desert Ozone Non-attainment Area."
3.2-5 (1)	Para 1, Line 9: Revise sentence by adding the underlined language as follows: "The MDAB is classified as non-attainment for the state standard within the Western Mojave Desert Ozone Non-attainment Area (see Figure 3.2-1), <u>moderate nonattainment for the federal PM 10 standards</u> , and classified as attainment or unclassified for the federal PM2.5 standards."
3.2-16 (2), (3)	<p>Para 2, Line 5: The references to "de minimis level" throughout this section all appear to be referring to the General Conformity de minimis thresholds. However, this is not always clear in the text. If this is correct, the text should be clarified to note that this "de minimis" concept is connected with the General Conformity analysis.</p> <p>Para 2, Line 9: Consider adding a clarification that despite potentially exceeding the federal General Conformity de minimis levels, the project would not exceed these levels in the specific project areas that are included in the calculations for comparison against these thresholds (as explained in the General Conformity section of this analysis).</p>
3.2-18 (1)	Mitigation Measure 3.2-1 should be revised to require watering <u>up</u> to twice daily during operation and maintenance. Mitigation Measure 3.2-1 is not "roughly proportional" to the

**Table A 1: Comments on Soda Mountain Solar PA/EIS/EIR**

<b>Page (paragraph)</b>	<b>Comment</b>
	impact of the Project nor does it mitigate a significant or adverse impact. The measure calls for stringent watering of roads twice per day during operation and maintenance of the Project. There are situations where watering roads twice per day would create more activity on Project roads than the proposed operation and maintenance activities (e.g., one vehicle is driven out to and back from a solar array). Rather than requiring stringent watering on a twice daily basis, the mitigation should be revised to require periodic watering to minimize visible dust emissions consistent with the MDAQMD standards in Rule 403.2.
3.2-31	Para. 4, 5th Line: There is no mitigation measure titled "AIR-1." Revise to state "the applicant proposed measures and mitigation measures 3.2-1 and 3.2-2" instead.
3.2-32 (Mitigation Measure 3.2-2)	Limiting idling of vehicles to 5 minutes could cause health risks to workers, particularly during hot summer months. The working conditions may require idling of vehicles to provide air conditioning. This measure would create an unsafe work environment when daytime temperatures are in excess of 100 degrees. The Project area is very hot (daytime temperatures exceed 120 degrees in the summer) and arid. Air conditioning in the summer may be necessary to prevent a medical emergency from occurring and should not be limited to managing the emergency after it has already occurred.  Please revise the measure to include an exception for engine idling required to provide air conditioning when temperatures exceed 85 degrees Fahrenheit if necessary to avoid health risks to workers.
<b>Biological Resources - Vegetation</b>	
3.3-2 (Table 3.3-1, row 6, column 2)	Table 3.3-1: the survey dates for the Jurisdictional Waters Delineation are incorrect. The survey dates were May 2009 and Winter 2012.
3.3-2 (3)	The second sentence of the third paragraph under 3.3.2 Regional and Local Environmental Setting should be revised to say: The Soda Mountain Wilderness Study Area is located in the Soda Mountains approximately 0.2 miles west <u>and north</u> of the Project site boundary.
3.3-3 (4)	Paragraph 4 states that a large wash that runs southwest to northeast through the area proposed for construction of the South and East arrays is mapped in the BRTR. The area that is mapped as <i>Ambrosia salsola</i> is within a wash near the East arrays. The vegetation community is mostly avoided by the current development plan. The sentence should be revised to reflect the presence of <i>Ambrosia salsola</i> in the East Array area only.
3.3-4 (Table 3.3-2, row 9, column 3)	The Proposed Action subtotal in Table 3.3-2 under the table heading Areas within Permanent Project Footprint appears to be incorrect. The acreage should match the area of permanent disturbance estimated for the project in Chapter 2: 2,222 acres.
3.3-4 (Table 3.3-2, row 17, column 3)	The Proposed Action subtotal in Table 3.3-2 under the table heading Areas within Temporary Project Footprint appears to be incorrect. The acreage should match the total area of disturbance for the project. The total area of disturbance is 2,557 acres in Chapter 2.
3.3-5 (3)	The sentence states that other species of concern are also present, but not widespread within and adjacent to the Project site. This statement is misleading. All of the weed species that were present with the exception of London Rocket are listed on Table 3.3-3. This

**Table A 1: Comments on Soda Mountain Solar PA/EIS/EIR**

<b>Page (paragraph)</b>	<b>Comment</b>
	<p>sentence should be deleted or revised because it creates the impression that the species that are presented in the document are widespread within and adjacent to the Project site and that there are other species that are not being disclosed.</p> <p>Please refer to the weed management plan for additional information on weeds that occur or may occur in the area and the current distribution of these species.</p>
3.3-23 (2)	The acreage of the Mojave creosote bush scrub identified under the Native Vegetation Communities on page 3.3-23 is inconsistent with the estimations of surface disturbance given in Chapter 2, which we consider to be correct.
3.3-26 (8)	The document states that non-listed cactus presence was documented but the distribution was not mapped. This is incorrect. Please refer to the BRTR and the URS 2009 rare plant survey for the mapped distribution of cacti within portions of the Project site. The first sentence of the third paragraph under 3.3.6.2 Alternative B should be revised to state that the cactus distribution was mapped over the majority of the Project site, as depicted in the BRTR and the URS 2009 rare plant survey, showing that the density of cactus northwest of I-15 is much greater than the density of cactus in the project area southeast of I-15.
3.3-29 (1)	The document states that botanical surveys quantified several protected trees but that their specific distribution was not mapped. The distribution of trees was mapped where trees occur on the Project site. Thirteen blue palo verde and one western honey mesquite tree were mapped on the site (Please re refer to CSESA. 2012. Focused Fall Special-Status Plant Survey, Soda Mountain Solar Project. Prepared for Bureau of Land Management. October - November). These trees are not protected by State or federal law. They are only protected from commercial harvest.
3.3-30 (1)	Section 3.3.6.6 Alternative F: CEQA No Project states that a PV solar energy facility and related infrastructure could be developed on the same site under Alternative F but that a "non-groundwater" source of water would be required. Please revise to simply state that a source of water outside the Soda Mountain Valley would be required.
3.3-31 (2)	Section 3.3.7 Cumulative Effects states that the XpressWest and Calnev pipeline projects would be constructed on the northwest side of I-15 as it passes through the Project site and that vegetation resources have not been characterized in this portion of the Project site. This statement is not entirely correct. The 2009 rare plant survey for the Soda Mountain Solar Project (URS) covered a 6,770 acre area that included the portion of the Calnev pipeline adjacent to the Project site.
3.3-36	<p>MM 3.3-4.</p> <p>Please include public lands enhancements as an alternate potential form of compensatory mitigation for loss of jurisdictional waters, assuming appropriate ratios are determined through CDFW, USFWS and CDFW approval.</p> <p>Please include performance bonds and, in limited circumstances, parent guarantees as acceptable forms of security for compensatory mitigation, in addition to pledged savings accounts and letters of credit.</p>
3.3-33 (Mitigation Measure)	The requirement in Mitigation Measure 3.3-2 to limit stockpiling of soils and topsoil and location of parking areas and staging and disposal sites in "disturbed areas lacking native vegetation and . . . not provid[ing] habitat for special status species" is too stringent. Much

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3.3-2, bullet 1)	of the Project site has native vegetation cover and, although few special status species occur on site, habitat for them is present throughout the site. To be feasible, the measure needs to be revised to state that areas occupied by special status plants must be avoided to the greatest extent possible, but, if unavoidable, may be disturbed if topsoil is salvaged and revegetation occurs nearby with success monitoring per Mitigation Measure 3.3-2(9).
3.3-33 (Mitigation Measure 3.3-2, bullet 4)	Modify the requirement for biological monitoring such that it must occur during "construction activities" rather than during "Project activities."
3.3-33 (Mitigation Measure 3.3-2, bullet 9)	Much of the Project site has less than 60 percent plant cover and density. Please qualify the coverage and density requirement to state " <u>at least 60 percent of the cover and density of similarly situated undisturbed sites within the Project vicinity</u> "
3.3-35	Item 3 states that Utah vine milkweed shall be protected from herbicide and other spoil stabilizer drift. Utah vine milkweed is not a special-status plant species. Please delete ", including Utah vine milkweed," from item 1 of the mitigation measure.
3.3-34 (Mitigation Measure 3.3-3(4g, h))	The 10-year monitoring requirement is unnecessarily long. The Draft VRMP requires monitoring and maintenance for 3 years following cactus transplanting. The 3 year requirement is consistent with other recent utility-scale solar projects on BLM administered lands within the Desert District and BLM Biologists comments on the Draft VRMP stated that the success criteria were acceptable. The Draft VRMP also includes remedial measures that will be implemented if the cactus salvage does not meet the success criteria after 3 years.
3.3-36 and 3.3-37 (Mitigation Measure 3.3-4)	Regarding Item 4f, restricting equipment maintenance within 150 feet of Waters of the State is overly restrictive given the predominance of ephemeral washes in the desert. The measure should be revised to reflect a clear performance standard such as, pollutants/contaminants (e.g., oil and grease) shall be contained and removed from the site to protect downstream water quality in accordance with state and federal laws.
3.3-43	Add the reference to the Fall 2012 rare plant survey to the reference list.
<b>Biological Resources - Wildlife</b>	
3.4-1 (2)	Please delete "and private lands under the land use jurisdiction of San Bernardino County" The project does not include private lands.
3.4-1 (Table 3.4-1)	Add the following survey references to Table 3.4-1: <ul style="list-style-type: none"> <li>April and May 2013 survey for desert tortoise. The 2013 survey area included 4,559 acres for the Project site and 165 acre East translocation site.</li> <li>Burrowing Owl Survey. Survey dates were April to June 2013. The survey study area included the Project site and 150-meter buffer from the Project site.</li> </ul> Please add these surveys and the corresponding references to the table.
3.4-2 (3)	Add burrowing owl to the discussion under 3.4.2.2 Wildlife Survey Methods. The burrowing

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	owl survey was conducted in spring 2013 and the survey methods should be described in this section of the document.
3.4-3 (1)	Describe the survey methods for the Spring 2013 desert tortoise surveys. Refer to Protocol Desert Tortoise Survey Report dated June 12, 2013.
3.4-4 (2)	Section 3.4.2.3 Special-Status Wildlife in the Action Area should include a reference to the CSESA Fall 2012 rare plant survey and Kiva Biological 2012 Desert Tortoise Survey. These surveys included observations (and locations) for burrowing owl, American badger, kit fox, and protocol surveys desert tortoise.
3.4-5	<p>The following comments refer to Table 3.4-2.</p> <ul style="list-style-type: none"> <li>• Golden eagle should be in bold-face type because it was identified during surveys of the study area for golden eagle.</li> <li>• The black-tailed gnatcatcher was observed on site during spring and fall avian point counts in 2009 and should be shown in bold-face type, if this species is required in the table. This species does not have any special designation, nor is the species discussed further in the document. It is unclear why this species is listed in this table.</li> <li>• Please correct state status for bighorn sheep.</li> </ul>
3.4-9 (2)	Please update the second paragraph with results of the 2013 protocol-level desert tortoise survey, which detected one live tortoise east of the east array.
3.4-9 (Table 3.4-3, row 6, column 3), 3.4-19 (1), 3.4-30 (1), 3.4-31 (1)	The acres of habitat types in the document are inconsistent with the number of acres that would be disturbed for the Project in Chapter 2. Please reconcile.
3.4-10 (4)	Revise "southern Rasor Road realignment corridor" to read "Alternative B BLM Proposed Rasor Road Re-Alignment Corridor". The applicant does not propose realignment of Rasor Road in this corridor.
3.4-17 (4)	The discussion of desert bighorn sheep survey results incorrectly cites the BRTR for information regarding anecdotal reports of sheep presence. The adult ewes foraging on the north end of the east array were mentioned in the Bighorn Sheep Report dated July 2013 and were not mentioned in the BRTR, which was submitted prior to the observation.
3.4-18 (2-5)	<p>Paragraph 3. Please add language noting that "However, no bighorn sheep have been identified crossing under the two largest of these underpasses since installation of game cameras within the underpasses in August 2012."</p> <p>Paragraph 5. Please add language stating that both DRECP bighorn sheep intermountain habitat maps and the results of other bighorn highway crossing studies indicate that the best suited point for reestablishing bighorn connectivity across I-15 in the vicinity of the project lies one mile to the east near the junction of I-15 and Zyzx Road because of the close proximity of mountainous terrain on either side of an approximately 90-foot wide I-15</p>

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	underpass. Please refer to the July 2013 bighorn sheep report prepared by Panorama Environmental, Inc. for supporting details.
3.4-19 (3)	<p>The desert kit fox survey results discussion does not include survey data collected during 2013 desert tortoise surveys, which searched for kit fox as well. More detailed mapping was performed during the Spring 2013 Desert Tortoise survey. That survey report states:</p> <p>"A single live adult kit fox was seen running in the North Burrowing Owl Buffer Area and Zone of Influence Area. In addition, a total of 161 canid burrows and burrow complexes were located in the South Project Site (73), North Project Site (48), South Relocation Area (38) and South Burrowing Owl Buffer and Zone of Influence Area (2)."</p> <p>The EIS/EIR should include the 2013 survey results.</p>
3.4-24 (Section 3.4.4)	Section 3.4.4 Analytical Methodology should include a discussion of the hydrogeologic conditions assessment and groundwater modeling methods that were used to assess groundwater impacts to Mohave tui chub, or reference the discussion elsewhere in the EIS/EIR.
3.4-24 (2)	Please either delete the second paragraph under 3.4.4 Analytical Methodology or list all surveys conducted for the project, such as those performed in 2009 and 2013, which are unmentioned.
3.4-25	Please add APM 18 to the list of APMs in Section 3.4.5. It is specifically designed to curtail project groundwater use to avoid impacts to the Mohave tui chub.
3.4-30 (4)	<p>In addition to briefly referencing APM 18 as justification for the effects conclusion, please specifically reference its curtailment provision, which prohibits use of groundwater within the Soda Mountain valley to the extent doing so would threaten Mohave tui chub habitat.</p> <p>The Mohave tui chub discussion should also mention that a groundwater model and hydrogeologic condition assessment were prepared to assess potential impacts to the spring. The model predicted that drawdown from groundwater pumping would be contained within the Soda Mountain Valley and there would be negligible or no impact to the water supply source for the spring. The mitigation measure provides additional assurance, but no impact is expected based on the model predictions.</p>
3.4-30-31 (5)	Please revise as follows: " <del>Little</del> <b>No</b> desert tortoise sign" is an inaccurate description for the South Array. <b>No</b> sign was detected in the South Array; no burrows, carcasses or scat were encountered in the area.
3.4-31 (2)	<p>The following comments refer to the list of potential direct impacts to desert tortoise provided on page 3.4-31.</p> <ul style="list-style-type: none"> <li>Item 4: There is no connectivity corridor for desert tortoise north and south of I-15 in the Project area. There is substantial evidence from studies in other parts of the desert that desert tortoise do not cross roads with high traffic volumes (Hoff and Marlow 2002). Survey results for the project corroborate this finding. I-15 has a very high volume of traffic (refer to the BRTR). Desert tortoise sign becomes less frequent in the East Array area closer to the highway. There is no evidence that tortoise are crossing the highway. No desert tortoises have been observed using the Opah Ditch underpass, where game cameras were installed in August of 2012. It is unlikely</li> </ul>



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	<p>that there is any desert tortoise connectivity across I-15 within the valley and the designation of a corridor in this area is contrary to the evidence gathered over multiple site surveys from 2009 to 2013.</p> <ul style="list-style-type: none"> <li>Please note that baseline traffic conditions include OHV access to Rasor Road and vehicle access to the utilities (two transmission lines, underground pipelines, distribution line, cell tower) north of I-15 in unfenced corridors.</li> </ul>
3.4-31–32 (3)	I-15 has a very high volume of traffic; it is unreasonable to attribute road kill on I-15 to the Project.
3.4-33	<p>The last paragraph of the page states that “Surveys conducted by the Applicant and field observations by agency staff indicate that the culverts and associated major washes on and near the Project site are used by a variety of wildlife .... and potentially desert tortoise.” Existing baseline conditions do not support the claim of potential desert tortoise use. There is substantial evidence from studies in other parts of the desert that desert tortoise avoid roads with high traffic volumes (Hoff and Marlow 2002). Survey results for the project corroborate this finding. I-15 has a very high volume of traffic (refer to the BRTR). Desert tortoise sign becomes less frequent in the East Array area closer to the highway. There is no evidence that tortoise are crossing under the highway. No desert tortoises have been observed using the Opah Ditch underpass, where game cameras were installed in August of 2012. It is unlikely that there is any desert tortoise connectivity under I-15 within the valley.</p> <p>In short, other wildlife may use these culverts, but all evidence indicates that desert tortoises are not approaching or passing over or under the I-15 highway because the I-15 highway is an existing barrier to desert tortoise connectivity within the valley. Further, the Project would not create a new barrier to desert tortoise connectivity within the valley because access to the culverts would remain after construction is completed.</p>
3.4-34 (6)	Please add the results of the Spring 2013 Phase II and Phase III spring burrowing owl surveys conducted by Kiva Biological Consulting to the Western burrowing owl discussion. During the Phase II burrow surveys 237 burrows were recorded. Of these, 50 burrows were observed with some type of associated owl sign. The observed sign showed some degradation; none appeared to be from Spring 2013. No owl tracks were observed at any burrow. No burrowing owls were observed on the site during Phase III surveys in Spring 2013. The survey results indicate that the Project site is not used for breeding in all years and the estimate of 13 owls is conservative given that none were observed during the spring breeding season.
3.4-37 (4)	The focused CDFW surveys for desert bighorn sheep were conducted in 2012. The document states that they were conducted in 2013.
3.4-39 (3, 4)	<p>The following comments refer to the golden eagle discussion on page 3.4-39.</p> <ul style="list-style-type: none"> <li>The potential golden eagle nest site was not discussed previously. The nest was not observed during BLM or Applicant surveys and use has not been documented by BLM.</li> <li>There would be a short segment of overhead line to tie in the substation and switchyard to the transmission line. The new segment of overhead line is approximately 1,000 feet. See APM 49. The short segment of overhead line is also discussed on the next page.</li> </ul>
3.4-40 (2)	Impacts to birds from the brine ponds would be minimized or avoided by implementation of

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	Mitigation Measure 3.4-1g, as well as APM 59. Please include a reference to APM 59.
3-4-41 (4)	The EIS/EIR states "The bighorn sheep habitat suitability report, included in the BRTR prepared for the Project by Panorama Environmental, Inc...acknowledge that the model incorrectly underestimated suitable habitat in the south Soda Mountains where sheep are known to occur." This statement is inaccurate. The DRECP Baseline Biology Report included a habitat suitability model that underestimated the extent of bighorn sheep habitat in the south Soda Mountains as noted in comments by Soda Mountain Solar dated July 24, 2012. The DRECP bighorn sheep habitat suitability models were subsequently revised to incorporate CDFW data regarding bighorn sheep use of the South Soda Mountains and the updated expert species models were presented in the DRECP Description and Comparative Evaluation of Draft DRECP Alternatives. These results were fully incorporated into the BRTR - for an example, please refer to Figure 3.3-12 of the BRTR – as well as in the separate bighorn sheep report prepared by Panorama (Bighorn Sheep Survey Results and Analysis (2013)).). In other words, the reports prepared by Panorama were used to correct the DRECP models, not the other way around.
3.4-41 (4)	<p>The EIS/EIR states "While it may occur infrequently, the north-south movement of bighorn sheep across I-15 in the study area is important to maintaining the sheep metapopulation within the Soda Mountains". Replace "maintaining" in this sentence with "restoring". This statement is inaccurate in that it asserts that there is existing movement of bighorn sheep across I-15 through the Project area. There is no evidence of bighorn sheep movement across I-15 and there is substantial evidence to the contrary. Bighorn sheep have not been observed using the culverts during photographic monitoring since August 2012 and there is no sign of bighorn sheep in the north Soda Mountains. The bighorn sheep metapopulation within the Soda Mountains was colonized from the Cady Mountains to the south. There is no existing connectivity between the population of bighorn sheep in the Soda Mountains and the population of bighorn sheep north of the project in the Avawatz Mountains. There is interest in <u>restoring</u> bighorn sheep connectivity across I-15 near the Project, but that genetic link does not currently exist.</p> <p>Please also revise the following phrase "short lived <del>regional</del> <u>local</u> movements" to reflect the above.</p>
3.4-43 (3) and 3.4-44 (2)	<p>The following comment refers to impacts identified under Alternative B as described on page 3.4-43 and 3.4-44.</p> <ul style="list-style-type: none"> <li>The BLM Proposed Rasor Road Realignment included in Alternative B is located south of the Project and within an area of Mojave fringe-toed lizard habitat. Alternative B would result in greater impacts to Mojave fringe-toed lizard habitat and greater likelihood of direct impacts to individuals. Mojave fringe-toed lizards were observed in the BLM Proposed Rasor Road Realignment corridor during Project surveys.</li> </ul>
3.4-44 (8), 3.45 (1)	<p>The following comments refer to impacts identified under Alternative C as described on page 3.4-45.</p> <ul style="list-style-type: none"> <li>The EIS/EIR states "Sheep would not need to travel between solar arrays under this alternative; thus, there may be some benefits related to retention of movement corridors." Photographic monitoring at Opah Ditch since August 2012 indicates bighorn sheep are not moving across I-15 through the underpass within the valley.</li> </ul>

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	The Alternative would not retain a movement corridor since it does not currently exist. This statement should be modified to read "...retention of a potentially restorable movement corridor."
3.4-48 (2)	The discussion of Migratory Birds (Nesting) on page 3.4-48 should include a discussion of APM 55, which requires preconstruction avian clearance surveys and restricts vegetation clearing to outside of the breeding season to the maximum extent practicable.
3.4-49	ISEGS avian mortality figures should not be used for comparison because that project involves an entirely different technology (heliostat mirrors and power tower).
3.4-50 (2)	The approved XpressWest Project has a much greater potential to impede bighorn sheep connectivity restoration efforts than the proposed Project. In the absence of the proposed action, the XpressWest Project would block potential future restored movement between the north and south Soda Mountains. The XpressWest mitigation requires construction of bighorn sheep fences in the mountains near Zzyzx Road where the potential for restored bighorn sheep connectivity is greatest. This measure would not only block restoration of bighorn sheep access to the culverts, but also restoration of bighorn sheep access through the mountains. These effects would occur as a result of XpressWest alone, and in the absence of the proposed Project.
3.4-51 (Mitigation Measure 3.4-1a)	Mitigation Measure 3.4-1a requires that an individual biologist be designated and approved by BLM. Individual should be revised to individual(s). There may be a need for multiple designated biologists due to personnel changes and to accommodate construction work schedules/vacations. Item 3 requires that the designated biologist conduct daily compliance inspections. Item 3 should be revised by replacing "Conduct compliance inspections daily" with "be on-site daily". Daily inspections are typically performed by biological monitors rather than the designated biologist. It is unrealistic to expect the designated biologist to perform all of the daily sweeps and manage the biological monitoring for such a large site.
3.4-52 (Mitigation Measure 3.4-1b)	Measure 3.4-1b, Item 5 requires that any non-listed, special-status ground-dwelling animal found on site be relocated to adjacent suitable habitat at least 200 feet from construction. This requirement is inconsistent with agency guidance for kit fox and American badger and does not acknowledge breeding season restrictions in relocating these species. Please revise this requirement to state that, if relocation is necessary, desert kit fox and American badger would be relocated at an appropriate time, place, and manner consistent with CDFW guidance.
3.4-51 (Mitigation Measure 3.4-1b)	Mitigation Measure 3.4-51 currently requires Biological Monitors during operation and maintenance (in addition to during pre-construction surveys and construction activities). Please revise the provision to limit the Biological Monitor's post-construction activities to post construction biological monitoring imposed as an APM or otherwise required by a Project approval.
3.4-52 (Mitigation Measure 3.4-1b(4))	Please revise item 4 to apply to the extent practicable; some species can be extremely hard to detect even if present.  Please revise Item 6 to allow escape ramps to be installed as an alternative to creating an earthen ramp.
Mitigation	Mitigation Measure 3.4-1c Requires a Worker Environmental Awareness Program (WEAP).

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Measure 3.4-1c	Revise Item 9 by adding "that are applicable to their work" at the end of the sentence.
Mitigation Measure 3.4-2a	Item 2(d) discusses requirements for inspections of the desert tortoise exclusion fence. In Item 2(d) 6 lines down, delete "and during" from the sentence. It could be unsafe to inspect the fence during a major rainfall event.  Add the word "damaged" after "all" and before "temporary" in the last sentence of Item 2(d).
3.4-53 (Mitigation Measure 3.4-1(d))	Please include a provision requiring a 15-mile-per-hour speed limit during operations (not just construction) for all access roads outside of permanent desert tortoise fencing.
3.4-54 (Mitigation Measure 3.4-1f(5))	Revise the last line of Item 1 to "within 500 feet (150 meters) during the breeding season". 500 meters is much larger than 650 feet; the measure as written is not consistent with the Staff Report.  Revise line 3 or Item 2 to read "passive relocation of owls may be implemented prior to construction activities <u>in each work area</u> ..." SMS may construct the Project and relocate owls in phases.  Revise line 1 of Item 3 to read "Unless otherwise authorized by <u>the designated biologist</u> a 500 foot buffer..."
3.4-54 (Mitigation Measure 3.4-1g)	Mitigation Measure 3.4-1g requires the Applicant to prepare a BBCS with a raven management component. The Draft BBCS was submitted to all agencies. The applicant has proposed preparation of a separate Raven Monitoring and Control Plan. Refer to APM 72
3.4-54 (Mitigation Measure 3.4-1f(5))	Please remove the requirement that off-site habitat would be in areas where turbines would not pose a mortality risk. No wind turbines are proposed for this project.
3.4-54 (Mitigation Measure 3.4-1f(5))	Because this ES establishes nested compensatory mitigation lands on the basis of desert tortoise rather than vegetation community impacts, in the last sentence of Mitigation Measure 3.4-1f(5), please replace "sensitive vegetation communities" with "desert tortoise habitat or other habitat and/or natural communities"
3.4-54 (Mitigation Measure 3.4-1g)	Add the following sentence after sentence 1 of Mitigation Measure 3.4-1g: The BBCS shall include measures to mitigate for the effects to birds, such as minimizing disturbance, preconstruction surveys, and minimizing effects to nests during breeding season.
3.4-54 (Mitigation Measure 3.4-1h)	The requirements for avian use surveys in Item 1 of Mitigation Measure 3.4-1h, should be replaced with avian behavior surveys because use surveys are inappropriate for assessing the potential effects of solar PV arrays on avian species. Common problems with avian use surveys include: <ol style="list-style-type: none"> <li>1) Hundreds or thousands of hours of use surveys are often required to detect a single individual of special-status or rare species</li> <li>2) Use surveys are poor at detecting some species (e.g. burrowing owl, great-horned</li> </ol>

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	<p>lark, barn owl, common poorwill, and common nighthawk)</p> <ol style="list-style-type: none"> <li>3) Use rates shift spatially over time</li> <li>4) Use rates can be biased when compared to fatality rates because of substantial seasonal trends in relative abundance</li> <li>5) Detection rates decline with distance from the observer</li> <li>6) Detection rates are influenced by the visual background and can bias the use rate</li> <li>7) Survey duration affects use rate estimates</li> </ol> <p>Avian behavior surveys are much more effective than use surveys for predicting impacts, understanding the factors related to project impacts, and finding solutions to reduce, rectify, and offset future impacts. A single year of behavior surveys is generally sufficient to document avian behavior. Behavior surveys, if implemented correctly, should be free of the substantial biases frequently imbedded within use survey results.</p> <p>We also request removal of the radar survey requirement of item 2(b) of Mitigation Measure 3.4-1h. Avian use rates derived from radar surveillance suffer from a number of problems. Species identifications are often not possible, or are based on assumptions about size class, flight speed, flock size, and time of night when the radar target(s) was observed. Visual confirmation of radar targets is rare, often ranging between 0% and 2%. Radar is unlikely to provide the species-specific information that one needs to understand collision rates or causal factors. Thermal imaging is a superior nocturnal monitoring method. Thermal imaging allows the observer to both identify animals to the species level and observe their behaviors to see how birds and bats react to the solar infrastructure. Thermal imaging also should be used instead of bat acoustic sampling. The baseline bat survey for the project indicated that Townsend's big-eared bats are often not detected with acoustics, for example.</p> <p>Please remove the off-site survey requirement of Item 1 of Mitigation Measure 3.4-1h, as well. Comparison of onsite data with offsite control plots will cause spatial confounding. The project site and offsite landscape characteristics (e.g., vegetation, soils, slope) differ and avian use and behavior will reflect these differences in landscape characteristics. The comparison of avian use or behaviors rates on and off site will always be compromised by lack of treatment replication and interspersation. It is therefore recommended that the offsite monitoring requirement be removed.</p> <p>Pre-construction detection trials will not be valuable to assessing post-construction detection rates. The scavenger community and scavenger behaviors will change once the project is built. Searcher detection rates will also change. Comparing carcass detection rates before and after construction will not provide any useful insight into fatality rates and no adjustments to fatality rates will be possible based on preconstruction detection trials.</p> <p>Item 3(c) of the Avian Monitoring Program should be deleted because the scavenger and searcher efficiency trials are covered by integrated detection trials in 3(b).</p> <p>The requirement for seasonal trials should be replaced with an integrated detection trial which covers all seasons by design.</p> <p>Finally, the goal of this avian monitoring program is to understand, reduce and off-set impacts to avian species. It is recognized in the ES/EIR that the solar project cannot completely avoid or eliminate impacts, particularly given the recent discovery of a potential "lake effect" of solar PV technologies on avian species. Accordingly, please delete the terms "avoid" or "eliminate" impacts from the mitigation measure.</p> <p>These comments have been incorporated into our proposed edits to Mitigation Measure 3.4-1h, below.</p>

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	<p><b>Avian Monitoring Program.</b> An Avian Monitoring Program shall be initiated and approved pre-construction and continue for at least <u>one year</u> <del>three years</del> following commercial operation (<del>and longer</del> <u>and potentially up to three years</u> if determined necessary and appropriate by the Compliance Project Manager (CPM)) that shall include, at a minimum, the following provisions:</p> <ol style="list-style-type: none"> <li>1. The Project owner will survey and monitor on-site <del>and off-site</del> avian use <del>and</del> <u>and bat</u> behavior to document <del>species composition on and offsite</del> avian and bat reactions to the project and to infer causal factors, if any, to project impacts, <del>compare onsite and off site rates of avian and bat use, document changes in avian and bat use over time (pre and post construction), and evaluate the changes in annual abundance and distribution of birds in and near the facility.</del> The Project owner will submit all data gathered onsite to the CPM as specified herein, or as requested by the CPM, and also will make consulting biologists available to answer CPM inquiries.</li> <li>2. The Project owner will implement a <u>scientifically defensible statistically robust</u> avian and bat <del>mortality</del> <u>fatality</u> and injury monitoring program to <u>accurately estimate the rates of collision-caused fatalities and injuries and to enable comparisons of project impacts through time and to other projects that are also monitored for collision-caused fatalities</u> <u>identify the extent of potential avian or bat mortality or injury from collisions with facility structures</u>, including: <ol style="list-style-type: none"> <li>a) <del>assessing</del> <u>estimating</u> levels of collision-related mortality and injury with PV panels, perimeter fences, gen-tie line poles or wires, and other project features and structures;</li> <li>b) <del>documenting</del> <u>quantifying flight spatial patterns and behaviors via radar diurnal behavior surveys and nocturnal thermal imaging surveys, and comparing these patterns to that may be associated with</u> collision-related mortality and injury <u>to infer associations</u>, if any.</li> </ol> </li> <li>3. The Project owner will implement an adaptive management and decision-making framework for reviewing, characterizing, and responding to monitoring results.</li> <li>4. The Project owner will identify specific conservation measures and/or programs to <del>avoid</del>, minimize, rectify, reduce, or <u>eliminate offset project-caused</u> avian injury or mortality over time and will evaluate the effectiveness of those measures.</li> </ol> <p>The Avian Monitoring Program shall include the following components:</p> <ol style="list-style-type: none"> <li>1. A description and summary of the baseline survey methods, raw data, and results.</li> <li>2. Full survey methodology and field documentation, identification of appropriate <del>onsite and offsite</del> survey locations, control sites, and <del>the</del> seasonal considerations. <del>Bat acoustic sampling may be implemented depending on results of the Project owner's baseline studies, including preconstruction data.</del></li> <li>3. Avian and bat mortality and injury monitoring that includes: <ol style="list-style-type: none"> <li>a) Onsite monitoring that will <u>systematically-periodically</u> survey representative locations within the facility, <u>and in combination with an integrated carcass detection trial, will produce accurate project-wide impact estimates, at a level that will produce statistically robust data; account for potential spatial bias and allow for the extrapolation of survey results to non-surveyed areas and the survey interval based on scavenger and searcher efficiency trials and detection rates.</u></li> <li>b) Low-visibility and high-wind weather event monitoring to document potential weather-related collision risks <del>that may be associated increased risk of avian or bat collisions with project features</del>, including foggy, highly overcast, or rainy night-time weather typically</li> </ol> </li> </ol>



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	<p>associated with an advancing frontal system, and high wind events (40 miles per hour winds) <u>that</u> are sustained for <del>period of greater than</del> <u>longer than</u> 4 hours. The monitoring report shall include <del>survey</del> <u>study design (including integrated detection trials)</u>, <u>search frequency</u>, <u>search locations</u> and <u>field methods</u>.</p> <p><del>c) Statistically robust scavenger and searcher efficiency trials prior and post construction to document the extent to which avian or bat fatalities remain visible over time and can be detected within the project area and to adjust the survey timing and survey results to reflect scavenger and searcher efficiency rates</del></p> <p>d) Statistical methods used to generate facility estimates of potential avian and bat impacts based on the observed number of detections during standardized searches <u>and adjusted by integrated detection trials during the monitoring season for which the cause of death can be determined and is determined to be facility related.</u></p> <p>e) Field detection and mortality or injury identification, cause attribution, handling and reporting requirements.</p> <p>4. All post-construction monitoring studies included in the Avian Monitoring Program shall be conducted by a third party contractor for <u>at least one year and up to three</u> years following commercial operation and approval of the Avian Monitoring Program by the CPM. All surveys and monitoring studies included in the Avian Monitoring Program shall be conducted during construction and commercial operation. At the end of the <del>three year</del> <u>one year</u> period, the CPM shall determine whether the survey program shall be continued.</p> <p>5. An adaptive management program shall be developed to identify and implement reasonable and feasible measures that would reduce levels of avian or bat mortality or injury attributable to Project operations and facilities.</p> <p>6. Monitor the death and injury of birds and bats from collisions with facility features. The monitoring data shall be used to inform an adaptive management program that would <del>avoid and</del> minimize Project-related avian and bat impacts. The study design shall be approved by the CPM in consultation with CDFW and USFWS. The Avian Monitoring Program shall include detailed specifications on data and carcass collection protocol and a rationale justifying the proposed schedule of carcass searches. The program also shall include <del>seasonal trials</del> <u>an integrated detection trial to estimate the proportion of fatalities not found during periodic searches. assess bias from carcass removal by scavengers as well as searcher bias.</u></p>
3.4-56, 3.4-57, and 3.4-58 (Mitigation Measure 3.4-2a)	<p>Mitigation Measure 3.4-2a</p> <p>Please revise the last sentence of the first paragraph as follows: "These measures include, but are not limited to, the following, <u>subject to modification by the terms of incidental take authorizations issued by the USFWS and CDFW:</u>"</p> <p>Please remove "in the utility corridors" from the first full sentence under item 2d. A portion of the Project is within a BLM Utility Corridor; however, the fence should be inspected equally throughout the Project site. This language was likely taken from another project and does not apply to the SMS Project.</p>
3.4-60 (Mitigation Measure 3.4-2(d))	<p>Mitigation Measure 3.4-2d.</p> <p>Please add the following sentence to the end of the first paragraph of the mitigation measure: <u>The Project owner may also satisfy the requirements of this condition through the enhancement of public lands at different ratios in substantial conformance with the intent</u></p>



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	<p><u>of this mitigation measure if acceptable to BLM and if acceptable to USFWS and/or CDFW.</u></p> <p>Please add the following sentence to the end of the second paragraph: If compensation lands are acquired in fee title or in easement, the requirements for acquisition, initial improvement, and long-term management of compensation lands include all of the following, <u>subject to modification by the terms of incidental take authorizations issued by the USFWS and CDFW:</u></p>
3.4-60 (Mitigation Measure 3.4-2(d)(1)(a))	The Project area is immediately west of the Eastern Mojave Recovery Unit. Please revise the measure to allow location of compensation lands in Western Mojave Recovery Unit or, with prior USFWS approval, within the Eastern Mojave Recovery Unit.
3.4-64 (Mitigation Measure 3.4-3)	Mitigation measure 3.4-3 requires funding to CDFW to install 3 to 5 water sources for bighorn sheep. Because there is currently no connectivity occurring under baseline conditions, and the situation would not change as a result of the proposed Project, no mitigation is warranted. However, the applicant is willing to agree to amend APM 75 to include an additional one to three water sources on the same terms as mitigation measure 3.4-3.
3.4-64 (Mitigation Measure 3.4-4)	<p>Mitigation Measure 3.4-4 describes the protocol for when active nests are found on site. Typically, a reduced buffer is allowed depending on the species and the level of activity. Please revise the measure to allow the biologist some discretion, in consultation with the BLM biologist, to reduce the buffer if it will not cause abandonment of the nest.</p> <p>The 3-day limit for nesting bird surveys prior to construction will be very difficult to implement due to the large area that will need to be surveyed, the difficulty in determining the exact date that construction will start, and weekends. The 3 days should be revised to 7 days.</p> <p>The Biological Monitor should also be able to determine a nest is no longer active. Add "or Biological Monitor(s)" after Designated Biologist.</p>
3.4-64 (Mitigation Measure 3.4-5a(1))	Mitigation Measure 3.4-5a, item 1 discusses vehicles speeds; this measure should be deleted and replaced with a reference to Mitigation Measure 3.4-1 d, which also discusses speed limits and distinguishes between roads within and without permanent desert tortoise fencing.
3.4-68 (Impact Wild-5)	As stated in the July 2013 Project bighorn sheep report submitted to BLM and as further explained in the comments below, the Project does not impact bighorn sheep connectivity because there is no connectivity occurring across the project site under existing baseline conditions. No mitigation is therefore warranted. However, as also stated in the bighorn sheep report and above in response to Mitigation Measure 3.4-3, as well as evidenced by APM75, the applicant is willing to assist with restoration efforts focusing on the installation of water sources in the vicinity of the proposed Project area.
3.4-68 (Impact Wild-5)	The determination of significant and unavoidable adverse effect on bighorn sheep is inconsistent with the EIS/EIR's CEQA thresholds of significance and the results of the Project studies for bighorn sheep. The significance thresholds that were used to assess impacts on bighorn sheep include: <i>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;</i>

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	<p><i>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;</i></p> <p>The EIS/EIR states, "Project-caused habitat modifications could have a significant effect on behavior and habitat use, including the ability or willingness of sheep to cross I-15 and move within or through the Project site." This determination of a significant effect is inconsistent with threshold (a). A "substantial adverse effect" to bighorn sheep would not occur from the minimal loss of suitable foraging habitat within the Soda Mountain Valley. The project footprint includes small areas of suitable foraging habitat (defined as areas within 0.5 mile of the 20 percent slope). This minimal loss of foraging habitat would not result in substantial adverse effects to bighorn sheep because there are substantial areas of suitable habitat in and around the base of the Soda Mountains that would not be affected by the Project. Current bighorn sheep use of the Project valley is minimal. Some scat has been identified along the margin of the valley and bighorn sheep have been observed along the hill slopes adjacent to the East Array, but the vast majority of the local population frequents the east side of the south Soda Mountains due to the availability of water near Zzyzx Springs. The impact of the project to this limited usage on the west side of the south Soda Mountains would not be a substantial adverse effect to the species.</p> <p>The EIS/EIR also states "The Project would negatively impact the ability to reestablish bighorn sheep connectivity across I-15 in the Soda Mountains. The only portions of the Project ROW where bighorn sheep presently can cross I-15 safely are at highway underpasses or overpasses. Multiple large culvert underpasses would become less accessible to sheep following Project implementation. This would be a significant impact..." This determination of significant effect is inconsistent with threshold (d). The Project will not "interfere substantially" with the movement of bighorn sheep. The statement in the EIS/EIR addresses future reestablishment of connectivity as opposed to the current movement of sheep. The significance threshold does not define impacts on some future potential corridor, but rather on "established" wildlife corridors. CDFW has used wildlife cameras to monitor the highway underpasses at Opah Ditch and Zzyzx Road since August 2012. No bighorn sheep use of these underpasses has been observed since monitoring began. The Project could not substantially interfere with movement in these underpasses because movement through these underpasses does not currently exist. In addition, the Project has been designed to avoid the base of the mountains where sheep may forage, and the drainages leading from the mountains to the culverts will remain open and unimpeded by the proposed Project. Moreover, baseline concerns aside, the Project would not interfere with movement of bighorn sheep north of the Project near Zzyzx Road, which is the most likely area for bighorn sheep to move between the north and south Soda Mountains due to the proximity of mountainous areas on either side of the I-15 freeway in that location. Because there would be no substantial interference with existing movement of bighorn sheep, the impact is in fact less than significant.</p>
3.4-69 (Impact Wild-6)	<p>See our page 3.4-50 (2) comment above regarding the effect of the Xpress West Project on potential bighorn connectivity restoration efforts. The Proposed Project's contribution to this effect would be minor relative to the impacts of the Xpress West Project and I-15 highway. The Project would not affect bighorn sheep connectivity individually and would not considerably contribute to cumulative impacts to connectivity.</p>
3.4-71	<p>Section 3.4.10.2 states that Alternative B would have similar bighorn impacts. Please change to reflect statement on page 3.4-44 that Alternative B would have fewer connectivity</p>

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	impacts by removing the northern array.
3.4-76	Please add a reference to the Spring 2013 Burrowing Owl Survey Report prepared by Kiva Biological Consulting.
<b>Geology and Soil Resources</b>	
3.7-25 (2)	Replace "significant" rainfall event" in the first sentence with "qualified storm event". A qualified storm event is defined in the State of California Stormwater General Permit.
Mitigation Measure 3.7-1	<p>Paragraph 2 of Mitigation Measure 3.7-1 requires straw wattles or other measures to be used where desert tortoise fencing creates spoil piles or excess soil. This language is too broad and may require a straw wattle along the entire length of the desert tortoise fence. This would increase the level of disturbance while not necessarily reducing erosion. Either delete the specific requirement for BMPs along the desert tortoise fence, or revise this measure to only require BMPs where desert tortoise fencing creates substantial excess soil.</p> <p>Paragraph 3 specifies monitoring and repair requirements for erosion control facilities. The requirement that repairs be made within 24 hours is too strict and is likely infeasible following major events. Repairs can be made within 7 days. The last sentence of this paragraph is also too stringent. BMP repairs and maintenance are typically ongoing throughout the life of the Project. Construction on the entire Project should not be stopped if there is a straw wattle that is loose or a silt fence that has a small tear. The word "Any" should be replaced with "Substantial" in the last sentence.</p>
<b>Hazards and Hazardous Materials</b>	
3.8-1 (6) 3.8-17	In addition to the private air strip located at the Desert Studies Center site, there is also a small private air strip next to the Rasor Road service station, associated with an "Old FAA Beacon" identified on a 1983 USGS topo map.
3.8-18 (3)	Please add a reference to Table 2-3 for quantities of hazardous substances.
3.8-18-19 (5), 3.8-28 (2)	Section 2.4.2.10 states that an SPCC Plan may be required by San Bernardino Fire Department (SBCFD). The Applicant will prepare and submit an SPCC Plan to the SBCFD if the Project will include storage capacity of 1,320 gallons or more (in aggregate), as required by EPA rule.
<b>Lands and Realty</b>	
3.9-19(1)	Please clarify that despite potentially exceeding the federal de minimis levels during construction, the project would not exceed these levels in the specific project areas that are included in the calculations for comparison against these thresholds (as explained in the General Conformity section of our Air Quality section comments, above).
<b>Noise</b>	
3.11-15	Mitigation Measure 3.11-1 Please delete the restriction against construction and decommissioning activities on Sundays and apply the same restrictions as all other days of the week.
<b>Paleontological Resources</b>	

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3.12-9 (5)	Line 5: Please revise to state "where excavations disturb areas with PFYC designations of 3, 4, and 5" Otherwise, a monitor must be present during all excavation of "older alluvium," which is not defined in the EIS.
3.12-10	Mitigation Measure 3.12-4: Please revise the measure to limit activities only in the immediate vicinity of the fossil until it is salvaged.
<b>Recreation</b>	
3.13-14 Mitigation Measure 3.13-2	The requirement to fund preparation of a management plan for Rasor OHV is without foundation in the effects analysis of the DEIS/DEIR and should be deleted. The DEIS/DEIR identifies potential noise, dust and visual effects of travelers to and from the Rasor Road OHV area during project construction, but each of those effects are already separately addressed in the noise, air quality and visual APMs and mitigation measures of the Proposed Project and DEIS/DEIR, respectively.
3.13-16(1)	Para. 1, 11th Line: insert: "other than those already implemented on a resource-by-resource basis as discussed in other chapters of this PA/EIS/EIR".
3.13-17(3)	Para. 3, 8th Line: insert: "beyond those already implemented on a resource-by-resource basis as discussed in other chapters of this PA/EIS/EIR".
<b>Socioeconomics and Environmental Justice</b>	
3.14-12(6)	Para. 6, Line 3: Please add Biological Resources and Cultural Resources because they are discussed at 3.14-17 and 3.14-18.  Para. 6, Line 5: Insert: "3.17, Utilities and Public Services;"
<b>Transportation and Travel Management</b>	
3.16-18 (2)	This comment refers to impact question (c) under section 3.16.10.1 Alternative A: Proposed Action.  Clarify which airstrips the word "neither" refers to (e.g., Desert Studies Center and/or Rasor Road station). Baker has an airstrip, and it is in use, so the third sentence here is confusing.
<b>Visual Resources</b>	
3.18-8	The DEIS/DEIR identifies an interim VRM Class III designation for the Project site, noting that a VRM Class IV designation did not apply because the "Project setting is mostly undisturbed with its natural beauty and harmony dominating the views."  We request that BLM reconsider the VRM Class III designation, which appears to have been made on the basis of the same inventory values, such as natural beauty and harmony, that gave the Project site a VRI Class III designation. The decision to retain the same VRM Class designation as the Project site's VRI Class designation appears to have been made without consideration of the management objectives embodied in the use designations of the project site and as implemented in past and approved development nearby. As stated in BLM's national guidance:  "Inventory classes are not intended to automatically become VRM class designations. Management classes are determined through careful analyses of other land uses and

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	<p>demands. The VRM classes are considered a land use plan decision that guides future land management actions and subsequent site-specific implementation decisions. ... Class determination is based on a full assessment that evaluates the VRI in concert with needed resource uses and desirable future outcomes. The VRM class designations may be different than the VRI classes assigned in the inventory and should reflect a balance between protection of visual values while meeting America's energy and other land use, or commodity needs." IM No. 2009-167 (7 July 2009), page 1.</p> <p>Taking this guidance into consideration, as well as (i) the Project site's Multiple Use Class designations (all of which allow utility-scale solar), (ii) the amount of development that has been undertaken and/or approved in the project study area (Interstate 15 freeway, transmission lines, XpressWest high speed rail, Calnev pipeline), and (iii) the designation of most of the valley as a national utility corridor pursuant to an act of Congress, we are of the firm opinion that a VRM Class IV designation is more consistent with IM No. 2009-167 and the management decisions made to date within the Soda Mountain Valley. This is particularly fitting in the solar context because the Project site meets all SEZ screening criteria except one requiring a slope of two degrees or less (portions of the site are sloped up to 4 percent).</p>
3.18-22(3)	Please consider revising VRM conformity conclusion to reflect an Interim VRM Class IV designation, per preceding comment.
3.18-25 (2) and 3.18-33 (Mitigation Measure 3.18-1)	<p>This comment refers to the proportionality of Mitigation Measure 3.18-1 relative to the environmental impact identified.</p> <p>The mitigation measure calls for a "Glint and Glare Assessment, Mitigation, and Monitoring plan that accurately assesses and quantifies potential glint and glare effects and determines the potential health, safety, and visual impacts associated with glint and glare." There is no nexus for requiring the development of a glint and glare plan based on the analysis and on the level of identified impact. The Draft PA/EIS/EIR states that "the Project is analyzed for adverse effects of lighting and glare" (Page 3.18-14). It is also stated that "the use of PV technology is generally regarded as causing minimal glint and glare impacts" and that the analysis "recognizes that Solar PV employs glass panels that are designed to minimize reflection and reflect as little as 2 percent of the incoming sunlight. (FAA, 2010)." (page 3.18-23). The conclusion regarding glint and glare impacts in the PA/EIS/EIR is that "the color contrast of the solar panels during certain times of the day when the viewer is positioned in line with the sun would momentarily increase, but not to such an extent as to result in a change in the severity of the contrast rating in Table 3.18-4." (page 3.18-25). The Project facilities will be in view of motorists on I-15 for less than 5 minutes. It can be determined that the impact from glint and glare is less than significant because there would be no change in the severity of the contrast rating to "strong" and therefore no new source of substantial glare which would adversely affect daytime or nighttime views in the area.</p>
3.18-26	Bullet point item 2 should be revised to state "may view the North Array area" to "may view the South Array area"
3.18-34 (Mitigation Measure 3.18-1)	<p>This comment refers to the feasibility of implementing Mitigation Measure 3.18-1, Item 1 and Item 4.</p> <p><b>Item 1.</b> The conclusion of less than significant glint and glare impacts is discussed in the previous comment. This visual dynamic does not represent a significant impact when considered in light of other mitigation measures related to light and glare. The basis for screening the solar arrays from view to reduce glare from the surface of the panels is not</p>



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	<p>warranted nor would screening be practical. Constructing berms as suggested would have a secondary impact on water resources, vegetation, and habitat that would be counter to Mitigation Measure 3.18-2, Item 1 (Table ES-2 , page ES-37; page 3.18-34) to minimize areas of surface disturbance and Measure 3.19-2, Item 3 which requires placement of berms outside of active drainage channels. Additionally, the fencing with privacy slats creates an enhanced contrast impact with the characteristic landscape.</p> <p><b>Item 4.</b> Coloring the back side of collectors is not “roughly proportional” to the impact. While the backs of many manufactured panels will be flat-white to light grey in color, they are almost always in shadow (and therefore not creating a significant contrast) because the other side of the panel is positioned to capture maximal sunlight.</p>
3.18-34 (Mitigation Measure 3.18-1)	<p>This comment refers to conflicts between Mitigation Measure 3.18-1 Siting and Design, Item 1 and Item 4a.</p> <p>Item 4a requires that security fencing be coated with black poly-vinyl or other visual contrast reducing color (Item 4a), whereas Item 1 requires use of fencing with privacy slats. Additionally, the use of fencing poly-vinyl or privacy slats to reduce glare actually enhances contrast impacts on the landscape.</p>
3.18-36 (Mitigation Measure 3.18-2)	<p>This comment refers to the proportionality of Mitigation Measure 3.18-2, Item 6 relative to the environmental impact identified.</p> <p>There is limited use of graveled surfaces within the Project site. The use of gravel is only proposed at the substation and at the Operations and Maintenance facility. The color contrast of the gravel is expected to be minimal and the areas where gravel would be used are set back from the highway, superior in elevation to the highway, and minimally visible. There is no significant visual impact from the proposed use of gravel at the Project site.</p>
3.18-38 (1, 2)	<p>The following comments refer to Section 3.18.9 Residual Effects.</p> <ul style="list-style-type: none"> <li>• The statement that “nearby landscapes such as the Mojave Natural (sic) Preserve, which contains a ridgeline boundary within the viewshed of the Project, experiencing residual effects with the transformation of the valley of the Soda Mountains at the base of the ridge” should be deleted. This statement is not defensible because there is little to no use of the ridgeline (p. 3.13-2).</li> <li>• The explanation characterizing the impact on visitors passing through the Project area states that the experience of recreationists will be disrupted to the point that it results in an unavoidable impact. This takes out of context the impact conclusion of the recreation analysis that notes “while the Project is proposed within an existing transportation and utility corridor, it would significantly change the visual appearance and visitor experience along these primary access routes if it is constructed. However, the visual impacts would be minimal once visitors reach their destinations in Rasor OHV Recreation Area, Mojave National Preserve, and Soda Mountain WSA” (page 3.13-9).</li> <li>• There are very few individuals who live within view of the Project area – the Project is not visible from Baker.</li> <li>• The last paragraph addressing cumulative impacts has been addressed in Section 3.18.17 and does not belong in this section.</li> </ul>
3.18-40 (3)	<p>The last paragraph under Impact Vis-1 is a discussion of cumulative impacts. It is misplaced</p>

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	and belongs in other sections.
3.18-42 (4)	Relating glare to views from I-15, the analysis under Impact Vis-5 states "This glare could occur in any one place for several hours (e.g., a sunny afternoon) but is unlikely to be visually distracting or nuisance causing." (page 3.18-43). This is unlikely because all viewers would be in motor vehicles and their positions will be mobile, and any glare that may be generated would be highly ephemeral and short-lived as seen from any one location by travelers. Travelers on I-15 would have views of the Project for less than 5 minutes.
Figure 3.18-10 and 3.18-11	The introductory text that describes the visual simulations should be modified to state that the simulations present a worst-case condition. The Project proposal has been modified to reduce the footprint of the arrays and break up the array areas. The visual contrast resulting from the current Project proposal would therefore be less than the contrast presented in the visual simulations (Figures 3.18-10 and 3.18-11).
ES-40 and 3.18.14 (Mitigation Measure 3.18-1)	Mitigation Measure 3.18-1, Item 3 discusses patrol roads. Patrol roads are not included in the Project.
<b>Water Resources</b>	
3.19-11 (1)	The Clean Water Act does not apply to the Project because the waters in the Project area are not subject to federal jurisdiction under the Act.
3.19-18 (2)	Please add a reference to the 2013 addendum prepared by TRC Solutions.
3.19-20 (3)	A Notice of Intent will not be submitted. An NOI is required to obtain coverage under the NPDES General Permit. Because waters are not subject to federal jurisdiction under the Clean Water Act, the Project cannot obtain coverage under the General Permit. Replace NOI with Application for Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the State. This application is the same as the Application for 401 Water Quality Certification.
3.19-13 (3) 3.19-20 (3) 3.19-23 (3) 3.19-46 (2)	The R6T-2003-004 permit only covers up to 1 acre of impact. The appropriate permit is the Waiver of Waste Discharge Requirements. This paragraph should be revised to reflect the correct regulatory authorities and permits. An individual permit is anticipated.  The discussion regarding decommissioning states that the construction activities and land disturbance would require coverage under General Permit R6T-2003-004. As stated above, the Waiver of Waste Discharge Requirements is appropriate.
3-19-30 (2)	The last sentence of the second paragraph should be revised to replace "occurs" with "is likely to occur". There is no possibility that the 72-hour aquifer test could be perceptible 5 miles away in the Mohave tui chub habitat at Soda Springs.
3.19-31 (3)	Mojave fringe-toed lizard is a species of special concern. It is not listed under the CESA or FESA as suggested at the top of page 3.19-32. There is discussion here about impacts to Mojave fringe-toed lizard habitat that is inconsistent with the findings of Section 3.4. There is very little sand (which is required for fringe-toed lizard habitat) on the southern portion of the site. The material within the southern portion of the ROW is coarse-grained and gravelly. The

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	<p>Mojave dune complex consists of fine grained sands. The discussion of sand transport and potential impacts to Mojave fringe-toed lizard should be revised in Section 3.19 for consistency with the discussion on page Section 3.4-10:</p> <p>"...the majority of the Project area is not suitable habitat for Mojave fringe-toed lizard due to the lack of fine, loose, windblown sand (Panorama Environmental, Inc., 2013a). Substrate in the Project ROW generally consists of rocky alluvial slopes and desert pavement separated by washes. A small area (5.82 acres) of suitable habitat was found at the southeast corner of the project area, south of the South Arrays"</p>
3.19-34 (1), (5), (6)	<p>The berms are located outside of the major drainage. Only very high flows (e.g., 100 year flood events) would reach the flood control berm. The berm is parallel to the flow path and would not redirect flows.</p> <p>The berm is parallel to the flow path and located outside of the flow path for smaller frequent storm events. It would only be used to prevent side channels from forming under large events (e.g., 100 year flooding).</p>
3.19-35 (1)	<p>The major washes would be avoided and sediment transport would not be substantially changed from existing conditions. Sediment transport was changed in the area as a result of I-15, which funnels flows through the southern portion of the Project area. Storm flows would not reach or be redirected by the berms except for under infrequent high flow conditions. Sediment transport functions occur on regular intervals during frequent events.</p> <p>The sand source for the dunes south of the Project site is aeolian and not fluvial. The dunes are not related to sediment transport on the Project site and would therefore not be affected by the minor modification to the drainage patterns for low-frequency, high flow events (100-year flooding). The I-15 highway construction involved a major change to the flow regime and sediment transport functions within the Project area; however, this major change did not affect sand recruitment at the dunes south of the Project because the Project area was never a source of sand. The soil material within the Project site is gravelly and coarse grained.</p>
3.19-36 (1)	<p>The drainage patterns were substantially altered by I-15. The Project proposal would maintain the existing drainage patterns and would not substantially alter them.</p>
3.19-43 (Mitigation Measure 3.19-2)	<p>Please add the following clause to the last sentence of the first paragraph of Mitigation Measure 3.19-2 ... "with the overriding goal to prevent a net impact to downstream waterways from the alteration of on-site drainage or patterns and rates of erosion or sedimentation."</p> <p>Please delete "and County" from the first paragraph of Mitigation Measure 3.19-2 because the Project site is not subject to the land use jurisdiction of San Bernardino County.</p> <p>Mitigation Measure 3.19-2, item 3 discusses the active drainage channels in the Project area. Please define the term "active drainage channels" to reflect a standard flow regime such as the 2- or 5-year storm event.</p>
3.19-43, 3.19-44 (Mitigation Measure 3.19-3)	<p>The second and fifth paragraphs of Mitigation Measure 3.19.3 (Groundwater Monitoring and Mitigation Plan) refer to the identification of significance criteria and mitigation measures in the groundwater monitoring and mitigation plan. Please note that the DEIS/DEIR itself, in conjunction with the applicant's APMs, already identifies such significance criteria and mitigation measures. The primary purpose of the groundwater monitoring and mitigation plan is to implement those more general measures in detail. Therefore, please make the</p>

**Table A 1: Comments on Soda Mountain Solar PA/EIS/EIR**

Page (paragraph)	Comment
	<p>following conforming edits to mitigation measure 3.19-3:</p> <p>Page 3.19-44, first paragraph, lines 2 and 3: "<del>...define and specify implementation of the significance criteria; and identify groundwater mitigation measures and applicant proposed measures of the EIS/EIR in the event that adverse impacts occur that can be attributed to the Project.</del>"</p> <p>Page 3.19-44, fourth paragraph, lines 3 through 7: "The Plan shall <u>specify the manner of implementation of the groundwater</u> <del>describe additional</del> <u>mitigation measures and applicant proposed measures of the EIS/EIR that may be implemented if the County and BLM determine that additional mitigation is required.</u> <del>Such as the procedures for additional measures could include</del> curtailing or, if necessary, ceasing withdrawal of groundwater and importing a corresponding amount of water from outside of the Soda Mountain Valley, <del>and shall be implemented</del> as agreed upon in the Plan and with the concurrence of the County and the BLM."</p>
3.19-44; 3.19-45 (Mitigation Measure 3.19-4)	<p>Page 3.19-45, please revise the second paragraph as follows: "If the results of the test indicate a significant drawdown in the aquifer that may affect the Mohave tui chub, water usage will be curtailed to a level that will not cause draw down in the aquifer <u>that may affect the Mohave tui chub</u> and supplemental water for dust suppression shall be provided by other means, such as hauling water from an off-site source."</p> <p>Page 3.19-45, third paragraph:</p> <p>Please revise the second sentence in this paragraph to read "groundwater elevations in the aquifer adjacent to Soda Springs and Lake Tuendae and water surface elevations in Soda Springs and Lake Tuendae." It is impractical to measure groundwater elevations within the Lake. Lake Tuendae is a manmade lake and water surface elevations within Lake Tuendae are not representative of groundwater elevations.</p> <p>Please revise the last sentence of in this paragraph as follows: "If the Project is shown to cause a significant decline in groundwater levels which could threaten the tui chub, <u>then the Project shall correspondingly curtail withdrawal of groundwater, and an evaluation will be conducted to determine the cause and the ground water model revised.</u>"</p>
3.19-45 (4)	<p>Mitigation Measure 3.19-5 discusses flood protection during the construction period. Please clarify the measure by revising the first sentence of the mitigation measure as follows:</p> <p>"The Applicant shall ensure that during construction, temporary construction-related structures <u>constructed within a 100 year floodplain</u>, such as roads, berms, and other facilities, would be constructed so as to avoid <u>substantial</u> interference with 100-year flood flows <u>to the extent feasible.</u>"</p> <p>Please also add a "to the extent feasible" qualifier to the first clause of the second sentence of the mitigation measure.</p>
3.21-9 (8)	<p>Para. 8, Line 4: Please update the statement of number of significant and unavoidable impacts.</p>
3.21-10 (4), (5)	<p>Para 4, Line 5: Revise to read: "in which the Project could have a cumulatively considerable <u>construction-related</u> contribution to a significant..."</p> <p>Para 5, Line 5: There is no "Population and Housing" chapter; it falls under Socioeconomics and Environmental Justice.</p>

Table A 1: Comments on Soda Mountain Solar PA/EIS/EIR	
Page (paragraph)	Comment
	Para. 5, Line 6: Please add Visual Resources.
3,21-11	Para. 1, Line 2: Add: "and Air-3,"
	Para. 2, Line 3: Wild-7 should be removed from this list because it is less than significant.



## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<b>Air Resources</b>	
<p><b>APM 1</b> The Applicant shall use periodic watering for short-term stabilization of disturbed areas to minimize visible fugitive dust emissions. Use of a water truck to maintain surface moisture on disturbed areas and surface application of water during visible dusting episodes shall be considered sufficient to maintain compliance.</p>	<p><b>Mitigation Measure 3.2-1</b> The Applicant shall apply water twice daily to all unpaved roads and unpaved parking areas actively used during operation and maintenance, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.</p>
<b>Vegetation Resources</b>	
<p><b>APM 35: Preconstruction Surveys for Rare or Special-status Plant Species and Cacti.</b> Before construction of a given phase begins, the Applicant will stake and flag the construction area boundaries, including the construction areas for the solar arrays and associated infrastructure; construction laydown, parking, and work areas; and the boundaries of all temporary and permanent access roads. A BLM-approved biologist will then survey all areas of proposed ground disturbance for rare or special-status plant species and cacti during the appropriate period (blooming or otherwise identifiable) for those species having the potential to occur in the construction areas. All rare or special-status plant species and cacti observed will be flagged for transplantation.</p> <p><b>APM 36: Vegetation Resources Management Plan.</b> The Applicant will prepare and implement a Vegetation Resources Management Plan that contains the following components:</p> <ul style="list-style-type: none"> <li>• Vegetation salvage plans that discuss the methods that will be used to transplant cacti present within the proposed disturbance areas following BLM's standard operating procedures, as well as methods that will be used to transplant special-status plant species that occur within proposed disturbance areas.</li> <li>• Restoration plans discussing the methods that will be used to restore any of the four native plant community types (creosote bush-white bursage scrub, cheesebush scrub, creosote bush</li> </ul>	<p><b>Mitigation Measure 3.3-2 Vegetation Best Management Practices.</b> The Applicant shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to vegetation resources:</p> <ol style="list-style-type: none"> <li>1. <i>Limit Area of Disturbance.</i> The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat. All disturbances, Project vehicles and equipment shall be confined to the flagged areas.</li> <li>2. <i>Minimize Road Impacts.</i> New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.</li> </ol>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>scrub, and smoke tree woodland) present within the project right-of-way that may be temporarily disturbed by construction activities.</p> <p>Vegetation salvage and restoration plans that will specify success criteria and performance standards. The Applicant will be responsible for implementing the VRMP according to BLM requirements.</p> <p><b>APM 50: Integrated Weed Management Plan.</b> The Applicant will implement an Integrated Weed Management Plan to control weed infestations and the spread of noxious weeds on the project site.</p>	<p>3. <i>Minimize Traffic Impacts.</i> Vehicular traffic during Project construction and operation shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited.</p> <p>4. <i>Monitor During Construction.</i> In areas that have not been fenced with desert tortoise exclusion fencing and cleared, a Designated Biologist shall be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The Designated Biologist or Biological Monitor shall review areas immediately ahead of equipment during brushing and grading activities.</p> <p>5. <i>Minimize Impacts of Staging Areas.</i> Staging areas for construction on the plant site shall be within the area that has been fenced with desert tortoise exclusion fencing. For construction activities outside of the solar plant site, access roads, pulling sites, and storage and parking areas shall be designed, utilized, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources.</p> <p>6. <i>Avoid Use of Toxic Substances.</i> Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to plants and wildlife.</p> <p>7. <i>Implement Erosion Control Measures.</i> Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter "waters of the State". Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into drainages. All disturbed soils and roads within the Project site shall be stabilized to reduce erosion potential, both during and following construction. Areas of disturbed soils (access and staging areas) with slopes toward a drainage shall be stabilized to reduce erosion potential. To avoid impacts associated with generation of fugitive dust, surface application of water would be employed during construction and operation and maintenance activities.</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	<p>8. <i>Monitor Ground Disturbing Activities Prior to Pre-Construction Site Mobilization.</i> If pre-construction site mobilization requires ground-disturbing activities such as for geotechnical borings or hazardous waste evaluations, a Designated Biologist or Biological Monitor shall be present to monitor any actions that could disturb soil, vegetation, or wildlife.</p> <p>9. <i>Revegetation of Temporarily Disturbed Areas.</i> The Applicant shall prepare and implement a Revegetation Plan to restore all areas subject to temporary disturbance to pre-Project grade and conditions. Temporarily disturbed areas within the Project site include, but are not limited to: all proposed locations for linear facilities, temporary access roads, berms, areas surrounding the drainage diffusers, construction work temporary lay-down areas not converted to part of the solar field, and construction equipment staging areas. The Revegetation Plan shall include a description of topsoil salvage and seeding techniques and a monitoring and reporting plan, and the following performance standards by the end of monitoring year 2:</p> <ul style="list-style-type: none"> <li>a. at least 80 percent of the species observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; and</li> <li>b. relative cover and density of plant species within the temporarily disturbed areas shall equal at least 60 percent.</li> </ul> <p>10. <i>Integrated Weed Management Plan.</i> This measure provides further detail and clarifies requirements for the Applicant's draft Integrated Weed Management Plan (IWMP) (see Appendix E-2). Prior to beginning construction on the Project, the Applicant shall prepare, circulate to the BLM for comment and approval, and then implement an IWMP that meets the approval of BLM's Authorized Officer and conforms to the CDCA Plan (Table 1) to prevent the spread of existing invasive species and the introduction of new invasive species to the Project site. The Plan shall be consistent with BLM's Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM, 2007) and the National Invasive Species</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	<p>Management Plan (National Invasive Species Council, 2008).</p> <p>The IWMP shall include, at a minimum: specific management objectives and measures for each target invasive species; baseline conditions; weed risk assessment; measures (both preventative and containment/control) to prevent/limit the introduction and spread of invasive species; monitoring and surveying methods; and reporting requirements.</p> <p>The BLM-approved IWMP shall include:</p> <ul style="list-style-type: none"> <li>a. Preventative measures to prevent the spread of weeds into new habitats, such as equipment inspections, use of weed-free erosion control materials and soils, and a mandatory site training element that includes weed management;</li> <li>b. Weed containment and control measures such as the removal of invasive species primarily via mechanical means, with the use of herbicides restricted to BLM-policies and approved usage (e.g., BLM's <i>Herbicide Use Standard Operating Procedures</i> provided in Appendix B of the Record of Decision for the <i>Final Vegetation Treatments Using Herbicides Programmatic Environmental Impact Statement</i> (BLM, 2007);</li> <li>c. Monitoring and reporting standards annually during construction and for three years following the completion of construction to describe trend in weed distribution and direct weed management measures, and;</li> <li>d. Reporting of monitoring and management efforts in annual reports and a final monitoring report completed at the end of three years of post-construction monitoring. Copies of these reports will be provided to the BLM for review and comment. The BLM will use the results of these reports to determine if any additional monitoring or control measures are necessary. Weed control will be ongoing on the Project site for the life of the Project, but plan success will be determined by the BLM after the three years of operations monitoring through the reporting and review process. Success criteria will be defined as having no more than 10 percent increase</li> </ul>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	in a weed species or in overall weed cover in any part of the Project site.
<p><b>APM 37: Mitigate Direct Impacts to Rare or Special-status Plants.</b> To the extent feasible, the project will be designed to avoid impacts to the Emory's crucifixion-thorn population within the project ROW. No construction shall be allowed within a 100-foot buffer area around the Emory's crucifixion-thorn population. All other California Rare Plant Rank (CRPR) 1 and 2 plant occurrences within the Project ROW will be documented during preconstruction surveys. The Applicant will also provide a 100-foot buffer area surrounding each avoided occurrence, in which no construction activities will take place, if feasible. If avoidance is not feasible, the Applicant will provide on-site mitigation (e.g., vegetation salvage) for impacts to rare plants.</p> <p><b>APM 38:</b> Herbicides shall not be applied systemically over the entire project area. Herbicides shall be applied in focused treatments in areas of identified invasive weed infestations, such as where there is a clump or monotypic stand of invasive weeds. Herbicides shall not be applied within 100 feet of a special-status plant.</p> <p><b>APM 40:</b> Herbicides shall not be applied during rain events, or within 48 hours of a forecast rain event with a 50 percent or greater chance of precipitation.</p> <p><b>APM 36: Vegetation Resources Management Plan.</b> The Applicant will prepare and implement a Vegetation Resources Management Plan that contains the following components:</p> <ul style="list-style-type: none"> <li>• Vegetation salvage plans that discuss the methods that will be used to transplant cacti present within the proposed disturbance areas following BLM's standard operating procedures, as well as methods that will be used to transplant special-status plant species that occur within proposed disturbance areas.</li> <li>• Restoration plans discussing the methods that will be used to restore any of the four native plant community types (creosote bush-white bursage scrub, cheesebush scrub, creosote bush</li> </ul>	<p><b>Mitigation Measure 3.3-3: Special-Status Plant Species and Cacti Impact Avoidance and Minimization.</b> This measure will avoid unintended impacts to special-status plants on the Project site (i.e., Emory's crucifixion thorn) and provide for the salvage of protected cacti prior to construction. This measure includes the following requirements:</p> <ol style="list-style-type: none"> <li>1. The Applicant shall establish Environmental Exclusion Areas (EEAs) around Emory's crucifixion thorn plants that have been identified on the Project site (Figure 3.3-3). A minimum 100-foot exclusion area shall be established around the plants, which shall be clearly identified and maintained throughout construction to ensure that avoided plants are not inadvertently harmed. EEAs shall be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fencing or sediment controls under penalty of work stoppages or compensatory mitigation.</li> <li>2. <i>Worker Environmental Awareness Program (WEAP).</i> The WEAP (APM 44; Mitigation Measure 3.4-1c) shall include training components specific to protection of special-status plants that occur on the Project site.</li> <li>3. <i>Herbicide and Soil Stabilizer Drift Control Measures.</i> Special-status plant occurrences within 100 feet of the Project Disturbance Area, including Utah vine milkweed, shall be protected from herbicide and soil stabilizer drift. The IWMP (APM 50 and Mitigation Measure 3.3-2) includes measures to avoid chemical drift or residual toxicity to special-status plants consistent with guidelines such as those provided by the Nature Conservancy's The Global Invasive Species Team (Hillmer and Liedtke, 2003), the USEPA, and the Pesticide Action Network Database (available at: <a href="http://www.pesticideinfo.org">http://www.pesticideinfo.org</a>). <i>Erosion and Sediment Control Measures.</i> Erosion and sediment control measures shall not inadvertently impact special-status plants (e.g., by using invasive or</li> </ol>



## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>scrub, and smoke tree woodland) present within the project right-of-way that may be temporarily disturbed by construction activities.</p> <p>Vegetation salvage and restoration plans that will specify success criteria and performance standards. The Applicant will be responsible for implementing the VRMP according to BLM requirements.</p>	<p>non-Mojave Desert native plants in seed mixes, introducing pest plants through contaminated seed or straw, etc.). These measures shall be incorporated in the Comprehensive Drainage, Erosion, and Sedimentation Control Plan (Mitigation Measure 3.19-2).</p> <p>4. <i>Preconstruction Cacti Salvage</i>. The Applicant shall develop a <i>Vegetation Resources Management Plan</i> that details the methods for the salvage and transplantation of target succulent species that would be affected by the Project. The Plan shall be submitted to the BLM AO for review and approval and shall include at a minimum the following elements:</p> <ul style="list-style-type: none"> <li>a. The location of target plants on the Project site;</li> <li>b. Criteria for determining which individual plants are appropriate for salvage;</li> <li>c. The proposed methods for salvage, propagation, transport, and planting;</li> <li>d. Procedures for identifying target species during preconstruction clearance surveys;</li> <li>e. Considerations for storing salvaged plants or pre-planting requirements;</li> <li>f. Suggested transplantation sites;</li> <li>g. A requirement for 10 years of maintenance of the transplanted individuals, including removal of invasive species and irrigation (if necessary); and</li> <li>h. A requirement for 10 years of monitoring to determine the percentage of surviving plants each year and to adjust maintenance activities using an adaptive management approach.</li> </ul>
<b>Water Resources</b>	
<p><b>APM 17.</b> The groundwater model will be recalibrated using the measured aquifer properties resulting from the 72-hour aquifer test (see APM 14, above). If the results of the recalibrated model indicate that reduction in</p>	<p><b>Mitigation Measure 3.19-3: Groundwater Monitoring and Mitigation Plan.</b> A Groundwater Monitoring and Mitigation Plan (Plan) shall be prepared, reviewed, and approved by San Bernardino County prior</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>outflow from the valley would be less than 50 AFY under proposed project conditions, then no further action will be taken. If the recalibrated model predicts reduced outflow from the northeast outlet of the Soda Mountain Valley (the Valley) in excess of 50 AFY, APM 18 will be implemented.</p> <p><b>APM 18.</b> If, as described in APM 17, the recalibrated model predicts outflow from the northeast outlet of the Valley reduced by an amount in excess of 50 AFY, the Applicant will hire a professional hydrogeologist or geologist to develop a groundwater monitoring plan for submittal to and acceptance of BLM and San Bernardino County. The groundwater monitoring plan would include monitoring and quarterly reporting of groundwater levels within the Valley, in the alluvial aquifer adjacent to Soda Spring and west of Soda Lake, and at Soda Spring during construction of the project.</p> <p>If the project is shown to cause a decline in groundwater levels of 5 feet or more in the alluvial aquifer near Soda Spring, or there is a decrease in groundwater discharge at Soda Spring as a result of project groundwater withdrawal that results in the water level in the spring decreasing to less than 4 feet deep, which would threaten the tui chub [see Section 3.4: Biological Resources – Wildlife], an evaluation would be conducted to determine if the project is causing reduced groundwater discharge at Soda Spring.</p> <p>If it is determined that the project has caused a decrease in the volume of groundwater discharged at Soda Spring such that the spring is less than 4 feet deep, thereby threatening the tui chub habitat, then the project shall correspondingly curtail withdrawal of groundwater and import a corresponding amount of water from outside of the Valley.</p> <p>Groundwater level measurements in the monitoring wells located in the Valley would be compared to the model predictions on an annual basis during construction and every 5 years during project operation. The groundwater model would be recalibrated if the measured drawdown values in the monitoring wells exceed the predicted values by more than</p>	<p>to Project approval and implementation. The County must approve the Plan prior to issuance of a groundwater well permit. The Plan shall conform to the guidelines for groundwater monitoring as detailed by San Bernardino County in the "Guidelines for Preparation of a Groundwater Monitoring Plan" (Guidelines) (San Bernardino County, 2000). The Plan shall be prepared by a qualified professional geologist, hydrogeologist, or civil engineer registered in the State of California and submitted by the Applicant to the County and the BLM for approval. This Plan shall provide detailed methodology for monitoring and reporting procedures; locate monitoring, extraction and survey points; define significance criteria; and identify mitigation measures in the event that adverse impacts occur that can be attributed to the Project. The Plan shall include summarization of all monitoring data and would require submission of annual reports to the County. A comprehensive summary and analysis of data shall be included in a 5-year report. Monitoring shall be performed during pre-construction, construction, and operation of the Project, with the intent to establish pre-construction and Project-related groundwater level trends that can be quantitatively compared against observed and simulated trends near the Project pumping wells and near potentially affected existing private wells and sensitive water resources, such as Soda Spring at Zzyzx. The County will determine the duration of monitoring and reporting periods based on project conditions and monitoring data. Additionally, at each stage of reporting, the Applicant would be required to re-evaluate of the adequacy of the monitoring network and Plan.</p> <p>The Plan shall include a schedule consistent with the Guidelines for submittal of data reports by the Applicant to the County and the BLM, for the duration of the monitoring period. These data reports shall be prepared and submitted to the County and the BLM for review and approval, and shall include water level monitoring data (trend analyses) from all pumping and monitoring wells. Annual data reports shall be prepared and submitted to the County and the BLM for review and approval. The annual reports must be prepared</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>15 percent. Monitoring would cease after 5 years of operational monitoring if two conditions are met:</p> <ul style="list-style-type: none"> <li>The monitoring data support the model predictions.</li> </ul> <p>The model predicts the reduction in outflow from the northeast outlet will be less than 50 AFY under proposed project conditions, as detailed in APM 17.</p>	<p>consistent with County Guidelines and contain all necessary information and data summaries.</p> <p>The fifth annual report must be submitted to the County in the form of a revised Hydrogeology Report. Along with the components of the annual reports, the 5-year report shall include a re-evaluation of the hydrology of the project area based upon the monitoring data and any other information available. The 5-year report shall be prepared consistent with approved county Guidelines and submitted to the County and the BLM for review and approval.</p> <p>The County and the BLM shall determine whether operating groundwater supply wells or other water resources, such as Soda Spring, surrounding the Project site are influenced by Project activities. The Plan shall describe additional mitigation measures that may be implemented if the County and the BLM determine that additional mitigation is required. Such additional measures could include curtailing or, if necessary, ceasing withdrawal of groundwater and importing a corresponding amount of water from outside of the Soda Mountain Valley, and shall be implemented as agreed upon in the Plan and with the concurrence of the County and the BLM. After the first 5 years of the Project, the Applicant and the County and the BLM shall jointly evaluate the effectiveness of the Groundwater Monitoring and Mitigation Plan and determine if monitoring frequencies or procedures should be revised or eliminated.</p>
<b>Wildlife Resources</b>	
<p><b>APM 47.</b> A qualified biologist will monitor active bird nests or burrows that are located in or adjacent to work areas during the avian breeding season until nesting activities are complete.</p> <p>Nest monitoring results will be recorded in a Nest Check Form. Typically a nest check will have a minimum duration of 30 minutes, but may be longer or shorter, or more frequent than one check per day, as determined by the projects's Designated Biologist [see Mitigation Measure 3.3-1 in Section 3.3, <i>Biological Resources – Vegetation</i>] based</p>	<p><b>Mitigation Measure 3.4-1b: Biological Monitoring during Construction.</b> Biological Monitor(s) shall be employed to assist the Designated Biologist in conducting pre-construction surveys and monitoring ground disturbance, grading, construction, operation and maintenance, decommissioning, and restoration activities. The Biological Monitor(s) shall have sufficient education and field experience to understand resident wildlife species biology, have experience conducting desert tortoise, burrowing owl, kit fox, and</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>on the type of construction activity (duration, equipment being used, potential for construction-related disturbance) and other factors related to assessment of nest disturbance (weather variations, pair behavior, nest stage, nest type, species, etc.). The Designated Biologist will record the construction activity occurring at the time of the nest check and note any work exclusion buffer in effect at the time of the nest check. Non-project activities in the area should also be recorded (e.g., adjacent construction sites, roads, commercial/industrial activities, recreational use, etc.). The Designated Biologist will record any sign of disturbance to the active nest, including but not limited to parental alarm calls, agitated behavior, distraction displays, nest fleeing and returning, chicks falling out of the nest or chicks or eggs being predated as a result of parental abandonment of the nest.</p> <p>Should the Designated Biologist determine project activities are causing or contributing to nest disturbance that might lead to nest failure, the Designated Biologist will coordinate with the Construction Manager to limit the duration or location of work, and/or set other limits related to use of project vehicles, and/or heavy equipment. Nest locations, project activities in the vicinity of nests, and any adjustments to buffer areas will be described and reported in regular monitoring and compliance reports.</p> <p><b>APM 55.</b> The Applicant will clear vegetation outside of the bird breeding season to the maximum extent practicable. Preconstruction avian clearance surveys will be conducted by a qualified biologist for vegetation clearing during the bird breeding season (February 1 through August 31). If a nest(s) is identified in the preconstruction avian clearance surveys, a qualified monitor will be on site during vegetation removal in order to enforce non-disturbance buffers and stop activities as necessary should construction disturb nesting activity.</p>	<p>badger field monitoring, and be able to identify these species and their sign (including active burrows). The Designated Biologist shall submit a resume, at least three (3) references, and contact information for each prospective Biological Monitor to the BLM, and the Wildlife Agencies for approval. To avoid and minimize effects to biological resources, the Biological Monitor(s) will assist the Designated Biologist with the following:</p> <ol style="list-style-type: none"> <li>1. Be present during construction activities that take place in suitable habitat for desert tortoise, burrowing owl, kit fox, badger, or other protected species to prevent or minimize harm or injury to these species.</li> <li>2. Activities of the Biological Monitor(s) include, but are not limited to, ensuring compliance with all avoidance and minimization measures; monitoring for desert tortoise, burrowing owl, kit fox, badger, and other protected species; halting construction activity in the area if an individual is found; and checking the staking/flagging of all disturbance areas to be sure that they are intact and that all construction activities are being kept within the staked/flagged limits. If a desert tortoise, burrowing owl, kit fox, badger, or other protected species is found within a work area, the Biological Monitor(s) shall immediately notify the Designated Biologist, who shall determine measures to be taken to ensure that the individual is not harmed.</li> <li>3. Inspect the Project area for any special-status wildlife species.</li> <li>4. Ensure that potential habitats within the construction zone are not occupied by special-status species (e.g., potential burrows or nests are inspected).</li> <li>5. In the event of the discovery of a non-listed, special-status ground-dwelling animal, recover and relocate the animal to adjacent suitable habitat at least 200 feet from the limits of construction activities.</li> <li>6. At the end of each work day, inspect all potential wildlife pitfalls (e.g., trenches, bores, other excavations) for wildlife and remove</li> </ol>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	<p>wildlife as necessary. If the potential pitfalls will not be immediately backfilled following inspection, the Biological Monitor(s) will ensure that the construction crew slopes the ends of the excavation (3:1 slope) to provide wildlife escape ramps or will ensure that the construction crew completely and securely covers the excavation to prevent wildlife entry.</p> <p>7. Inspect the site to help ensure trash and food-related waste is place in closed-lid containers and to ensure that workers do not feed wildlife. Also inspect the work area each day to ensure that no microtrash (e.g., bolts, screws, etc.) is left behind.</p>
<p><b>APM 44.</b> The Applicant will implement a Worker Environmental Awareness Program (WEAP) to educate workers about the environmental issues associated with the project and the mitigation measures that will be implemented at the site, including nest awareness and non-disturbance exclusion zones.</p>	<p><b>Mitigation Measure 3.4-1c: Worker Environmental Awareness Program (WEAP).</b> Prior to Project initiation, the Designated Biologist shall develop and implement the WEAP (APM 44), which shall be available in English and Spanish. Wallet-sized cards summarizing the information shall be provided to all construction and operation and maintenance personnel. The WEAP shall include the following:</p> <ol style="list-style-type: none"> <li>1. An explanation of the sensitivity of the vegetation communities and special-status plant and wildlife species within and adjacent to work areas, and proper identification of these resources.</li> <li>2. Biology and status of the desert tortoise, golden eagle, burrowing owl, other nesting birds, kit fox, and American badger and measures to reduce potential effects to these species.</li> <li>3. Actions and reporting procedures to be used if desert tortoise, burrowing owl, other nesting birds, kit fox, or American badger are encountered.</li> <li>4. An explanation of the function of flagging that designates authorized work areas.</li> <li>5. Driving procedures and techniques to reduce mortality of wildlife on roads.</li> <li>6. Discussion of the federal and state Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act</li> </ol>



## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	<p>and the consequences of non-compliance with these acts.</p> <p>7. The importance of avoiding the introduction of invasive weeds into the Project area and surrounding areas.</p> <p>8. A discussion of general safety protocols such as hazardous substance spill prevention and containment measures and fire prevention and protection measures.</p> <p>9. A review of mitigation requirements.</p>
<p><b>APM 7.</b> The Applicant shall limit the speed of vehicles traveling on unpaved roads and disturbed areas to 15 miles per hour.</p> <p><b>APM 62.</b> Project personnel and visitors will be instructed to drive at low speeds (&lt;15 mph) and be alert for wildlife, especially in low-visibility conditions.</p>	<p><b>Mitigation Measure 3.4-1d: Speed Limits.</b> Speed limits along all access roads outside of permanent desert tortoise fencing shall not exceed 15 miles per hour to minimize dust during construction activities. Speed limits within permanent desert tortoise fencing shall not exceed 25 miles per hour to minimize impacts during operations and maintenance. Nighttime vehicle traffic associated with Project activities shall be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species.</p>
<p><b>APM 43.</b> Lighting on the project site shall be dark sky-compliant. Lighting shall be limited to areas required for operations or safety, directed on site to avoid backscatter, and shielded from public view to the extent practical. Lighting that is not required during nighttime hours shall be controlled with sensors or switches operated such that lighting will be on only when needed.</p> <p><b>APM 61.</b> The project will minimize the use of lighting that could attract migrating birds and bats (that feed on concentrations of insects at lights). Lighting will be kept to the minimum level necessary for safety and security. High intensity, steady burning, bright lights such as sodium vapor or spotlights will not be used on project facilities.</p>	<p><b>Mitigation Measure 3.4-1e: Lighting Specifications to Minimize Bird and Bat Impacts.</b> The Applicant/Owner shall minimize night lighting during construction by using shielded directional lighting that is pointed downward, thereby avoiding illumination to adjacent natural areas and the night sky.</p> <p>As a component of the lighting plan required in Mitigation Measure 3.18-1, all exterior lighting at operation and maintenance facilities, substations, and appurtenant structures shall be of the lowest illumination required for security and human safety. The Applicant/Owner shall install and continuously use and maintain lights with motion or heat sensors and switches to keep lights off when not required. Light fixtures shall be fully shielded and directed downward to minimize illumination above the horizontal plane. The Applicant/Owner shall minimize use of high-intensity lighting and steady-burning or bright lights such as sodium vapor, quartz, halogen, or other bright spotlights.</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM

**APM 46.** Pre-construction clearance surveys to identify active bird nests will be conducted within 2 weeks of ground disturbance or vegetation removal in all active work areas during the breeding season (February 1 through August 31). The work area will need to be resurveyed following periods of inactivity of 2 weeks or more. Active nests will be avoided using non-disturbance buffer zones as shown below.

Type	Starting Distance of Awareness or Non-Disturbance Exclusion Zones	Implementation Notes
Passerines	300 feet from active nest	A qualified biologist may reduce or increase the buffer distance if there is sufficient evidence based on species, habitat, and other factors, that the Applicant activity would not impact nesting activity. Buffers would be maintained until a qualified biologist has determined that the nest is no longer active.
Raptors	500 feet from active nest	
Golden Eagles	1 mile and line of sight from active nest	
Burrowing Owls <sup>1</sup>	250 feet from active burrows during nesting season (February 1 through August 31)	

Mitigation Measure

**Mitigation Measure 3.4-1f: Burrowing Owl Protection Measures.** No more than 30 days prior to the start of construction, a pre-construction survey for burrowing owls in conformance with the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012) shall be completed within suitable habitat at every work area and within a 150-meter buffer zone of each work area. The Applicant/Owner shall submit the results of the pre-construction survey to BLM's Authorized Officer and CDFW. The Applicant/Owner shall also submit evidence of conformance with federal and state regulations regarding the protection of the burrowing owl by demonstrating compliance with the following:

1. Unless otherwise authorized by BLM and CDFW, no disturbance shall occur within 160 feet (50 meters) of occupied burrows during the non-breeding season (September 1 through January 31) or within 650 feet (500 meters) during the breeding season (February 1 through August 31).
2. Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31). In the event that an occupied burrow absolutely cannot be avoided (e.g., due to physical or safety constraints), passive relocation of owls may be implemented prior to construction activities only if a qualified biologist approved by BLM verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans (developed in accordance with BLM protocol for burrowing owls) by CDFW and receipt of formal written approval from BLM authorizing the eviction. A Burrowing Owl Mitigation and Monitoring Plan shall be submitted to the BLM's Authorized Officer and CDFW for review and approval prior to passive relocation.
3. Unless otherwise authorized by BLM, a 650-foot buffer within which no activity will be permissible will be maintained between Project activities and nesting burrowing owls during the nesting season. This

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM			Mitigation Measure
	160 feet from active burrows during the wintering period (September 1 through January 31)		protected area will remain in effect until August 31 or at BLM's discretion and based upon monitoring evidence, until the young owls are foraging independently.
1	Described in CBOC 1993		4. If accidental take (disturbance, injury, or death of owls) occurs, the Designated Biologist will be notified immediately.
<p><b>APM 57.</b> Surveys for burrowing owl will be conducted in suitable burrowing owl habitat prior to construction and if construction is suspended for 2 weeks or more. The survey protocol will follow the Burrowing Owl Consortium Guidelines (CBOC 1993). If active burrows are found they will be avoided using non-disturbance buffer zones, as described in the table included in APM 46. Passive relocation would be used as described above once the burrow is determined to be inactive.</p>			5. Impacts to active burrowing owl territories shall be mitigated at a 1:1 ratio through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting this species. The acquisition of occupied habitat off-site shall be in an area where turbines would not pose a mortality risk. Acquisition of habitat shall be consistent with the CDFW's <i>Staff Report on Burrowing Owl Mitigation</i> (CDFG, 2012). The preserved habitat shall be occupied by burrowing owl and shall be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified ornithologist. The site shall be approved by BLM. Land shall be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. The off-site area to be preserved can coincide with off-site mitigation lands for permanent impacts to sensitive
<p><b>APM 66.</b> Desert tortoise exclusion fencing will be installed at the perimeter of project construction areas (i.e., solar array areas, project buildings, substation/switchyard, earthen berms, and along the edge of access roads and collector line corridors). The fence locations will be determined during final design and will enclose areas of project activity. The fenceline and a 30-foot-wide buffer will be surveyed for desert tortoise before construction of the fence and according to USFWS protocol. Tortoises found in the fenceline survey area or spotted within 50 meters of the fenceline survey area will be:</p> <ul style="list-style-type: none"><li>• Assigned a USFWS identification number.</li><li>• Given a health assessment</li><li>• Fitted with a transmitter. Tortoises that are too small to accept a transmitter (i.e., no transmitter is available that is 10 percent or less</li></ul>			<p><b>Mitigation Measure 3.4-2a: Desert Tortoise Protection.</b> The Applicant/Owner shall undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling, and other procedures shall be consistent with those described in the USFWS' 2009 <i>Desert Tortoise Field Manual</i> (USFWS, 2009d) or more current guidance provided by CDFW and USFWS. The Applicant/Owner shall also implement all terms and conditions described in the Biological Opinion to be prepared by USFWS. These measures include, but are not limited to, the following:</p> <p>1. <b>Desert Tortoise Fencing along I-15.</b> If required by the USFWS, to</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>of the tortoise's body weight) will be treated as a translocatee and held in situ.</p> <ul style="list-style-type: none"> <li>• Moved into habitat adjacent to and outside the fenceline. The tortoise will be moved into an empty burrow if clearance of the fence area takes place outside the tortoise active season (i.e., from November to March and from June to August).</li> </ul> <p>Any of the moved tortoises that return to the project site before completion of fence construction will be treated as a translocatee. Desert tortoises remaining outside the fenceline prior to completion of the fence will be deemed residents. The transmitter will be removed from the resident tortoise, and no further action will be taken for the resident tortoises. In all situations USFWS procedures will be followed to clear and handle the desert tortoises.</p> <p><b>APM 67.</b> The desert tortoise preconstruction clearance survey will be conducted during the desert tortoise active season (April through May and September through October) unless otherwise agreed to by USFWS and CDFW. The survey will be conducted according to USFWS protocol and preferably during early morning hours to increase the chance of locating juvenile tortoises, per the USFWS Guidelines. Any tortoise scat will be collected on each pass of a transect, per the USFWS Guidelines.</p> <p><b>APM 68.</b> The linear facilities preconstruction clearance survey(s) will be conducted at any time throughout the year. Linear facilities for this project will include the buried collector lines between arrays and connecting to the substation. Located desert tortoises will be undisturbed and allowed to clear the site without assistance or interference. Tortoises will be moved if necessary to reduce the potential for harm from construction activities, but will not be moved more than 500 meters in such a scenario. USFWS procedures will be followed to clear and handle the desert tortoise.</p> <p><b>APM 69.</b> Data will be collected during clearance surveys as described in this section. The same data will be collected again on tortoises held in the interim in situ on the day that the tortoise is translocated from the project site. The data will include:</p>	<p>avoid increases in vehicle-related mortality from disruption of local movement patterns along the existing ephemeral wash systems, desert tortoise-proof fencing shall be installed along the existing freeway right-of-way fencing on both sides of I-15 for the entire east-west dimension of the Project site. The tortoise fencing shall be designed to direct tortoises to existing undercrossing to provide safe passage under the freeway, and shall be regularly inspected and maintained for the life of the Project.</p> <p><b>2. Desert Tortoise Exclusion Fence Installation.</b> To avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence and temporarily installed along road corridors during construction. The proposed alignments for the permanent perimeter fence and temporary fencing shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence and temporary fencing areas shall be conducted by the Designated Biologist(s) using techniques outlined in the USFWS' 2009 Desert Tortoise Field Manual and may be conducted in any season with USFWS and CDFW approval. Biological Monitors may assist the Designated Biologist under his or her supervision. These fence clearance surveys shall provide 100 percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line covering an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 15 feet apart. All desert tortoise burrows and burrows constructed by other species that might be used by desert tortoises shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 <i>Desert Tortoise Field Manual</i>. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist in accordance with the USFWS' 2009 <i>Desert Tortoise Field Manual</i> (USFWS, 2009d). a. <i>Timing, Supervision of Fence Installation.</i> The exclusion fencing shall be installed prior to the onset of site clearing and grubbing. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<ul style="list-style-type: none"> <li>• Date</li> <li>• Time</li> <li>• Temperature (°C)</li> <li>• Project Name</li> <li>• Site type (project/recipient/control)</li> <li>• Landowner (BLM)</li> <li>• Permit/BO #</li> <li>• Coverage #</li> <li>• Field crew vendor</li> <li>• Surveyor (first and last name)</li> <li>• ID#</li> <li>• MCL (mm)</li> <li>• Sex</li> <li>• UTM (Easting)</li> <li>• UTM (Northing)</li> <li>• Location (e.g., burrow)</li> <li>• Transmitter manufacturer</li> <li>• Transmitter serial #</li> <li>• Transmitter frequency</li> <li>• Transmitter install date</li> <li>• Battery life (months)</li> <li>• Status (alive/dead/lost)</li> </ul> <p><b>APM 70.</b> Following installation of the desert tortoise exclusion fencing, the fencing shall be regularly inspected. Permanent fencing shall be inspected monthly and during and within 24 hours following all major rainfall events and all federal holidays. A major rainfall event is defined as one for which flow is detectable within the fenced drainage. During construction, repairs to fencing will be completed within 24 hours of detecting a breach. During operation, any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 72 hours between March 15 and October 31 and within 7 days between November 1 and March 14 of observing damage. Inspection reports will be submitted to BLM within 48</p>	<p>tortoise present.</p> <p>b. <i>Fence Material and Installation.</i> The permanent tortoise exclusionary fencing shall be constructed in accordance with the USFWS' 2009 <i>Desert Tortoise Field Manual</i> (Chapter 8 – Desert Tortoise Exclusion Fence).</p> <p>c. <i>Security Gates.</i> Security gates shall be designed with minimal ground clearance to deter ingress by tortoises. The gates may be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. Cattle grating designed to safely exclude desert tortoise shall be installed at the gated entries to discourage tortoises from gaining entry</p> <p>d. <i>Fence Inspections.</i> Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing shall be regularly inspected. If tortoise were moved out of harm's way during fence construction, permanent and temporary fencing shall be inspected at least two times a day for the first 7 days to ensure a recently moved tortoise has not been trapped within the fence. Thereafter, permanent fencing shall be inspected monthly and during and within 24 hours following all major rainfall events. A major rainfall event is defined as one for which flow is detectable within the fenced drainage. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 48 hours of observing damage. Inspections of permanent site fencing shall occur for the life of the Project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the Designated Biologist shall inspect the area for tortoise.</p> <p><b>3. Desert Tortoise Clearance Surveys within Solar Arrays.</b> Clearance surveys shall be conducted in accordance with the USFWS <i>Desert</i></p>



## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
<p>hours of any inspection.</p> <p><b>APM 71.</b> No construction, operations, or decommissioning activities shall occur in unfenced areas without a USFWS-approved desert tortoise biologist present. These activities include the construction phase (construction, revegetation), decommissioning phase, and maintenance activities during the operations phase that require new surface disturbance. An adequate number of trained and experienced monitors must be present during all construction and decommissioning activities in unfenced areas, depending on the various construction tasks, locations, and season. A biologist shall be on site from March 15 through October 31 (active season) during ground-disturbing activities in areas outside the exclusion fencing, and shall be on-call from November 1 to March 14 (inactive season). The biologist shall check all construction areas immediately before construction activities begin. The biologist shall inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground, and (d) within desert tortoise habitat (i.e., outside the permanently fenced area), before the materials are moved, buried, or capped. Alternatively, such materials may be capped before storing outside the fenced area or placing on pipe racks.</p> <p><b>APM 73.</b> Compensatory habitat mitigation shall be provided at a 1:1 ratio for impacts to suitable desert tortoise habitat during construction. A habitat compensation plan will be prepared to the approval of CDFW, USFWS, and BLM.</p>	<p><i>Tortoise Field Manual</i> (USFWS, 2009d) (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of two surveys covering 100 percent the Project area by walking transects no more than 15 feet apart. If a desert tortoise is located during the second survey, a third survey shall be conducted. Each separate survey shall be walked in a different direction to allow opposing angles of observation. Clearance surveys of the plant site may only be conducted when tortoises are most active (April through May or September through October) unless the Project receives approval from CDFW and USFWS. Clearance surveys of linear features may be conducted during any time of the year. Any tortoise located during clearance surveys of solar arrays shall be translocated or relocated and monitored in accordance with the Desert Tortoise Translocation Plan (DTTP; Mitigation Measure 3.4-2b) a. <i>Burrow Searches</i>. During clearance surveys all desert tortoise burrows and burrows constructed by other species that might be used by desert tortoises shall be examined by the Designated Biologist, who may be assisted by the Biological Monitors, to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS <i>Desert Tortoise Field Manual</i> (USFWS, 2009d). To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined in accordance with the DTTP. Tortoises taken from burrows shall be translocated as described in the DTTP.</p> <p>b. <i>Burrow Excavation/Handling</i>. All potential desert tortoise burrows located during clearance surveys shall be excavated by hand, tortoises removed, and burrows collapsed or blocked to prevent occupation by desert tortoises in accordance with the DTTP. All desert tortoise handling and removal and burrow excavations, including nests, shall be conducted by the Designated Biologist, who may be assisted by a Biological Monitor in accordance with the USFWS <i>Desert Tortoise Field Manual</i> (USFWS, 2009d).</p> <p><b>4. Monitoring Following Clearing.</b> Following the desert tortoise clearance and removal from the power plant site and utility corridors, workers and heavy equipment shall be allowed to enter</p>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
	<p>the Project site to perform clearing, grubbing, leveling, and trenching activities. A Designated Biologist or Biological Monitor shall be on-site for clearing and grading activities to move tortoises missed during the initial tortoise clearance survey. Should a tortoise be discovered, it shall be relocated or translocated as described in the DTP.</p> <p><b>5. Reporting.</b> The Designated Biologist shall record the following information for any desert tortoises handled: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS); d) gender, carapace length, and diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled tortoise. Desert tortoise moved from within Project areas shall be marked and monitored in accordance with the DTP.</p>
<p><b>APM 7.</b> The Applicant shall limit the speed of vehicles traveling on unpaved roads and disturbed areas to 15 miles per hour.</p> <p><b>APM 62.</b> Project personnel and visitors will be instructed to drive at low speeds (&lt;15 mph) and be alert for wildlife, especially in low-visibility conditions.</p> <p><b>APM 35. Preconstruction Surveys for Rare or Special-status Plant Species and Cacti.</b> Before construction of a given phase begins, the Applicant will stake and flag the construction area boundaries, including the construction areas for the solar arrays and associated infrastructure; construction laydown, parking, and work areas; and the boundaries of all temporary and permanent access roads. A BLM-approved biologist will then survey all areas of proposed ground disturbance for rare or special-status plant species and cacti during the appropriate period (blooming or otherwise identifiable) for those species having the potential to occur in the construction areas. All rare or special-status</p>	<p><b>Mitigation Measure 3.4-5a: Minimize Vehicle and Equipment Impacts during Operation and Maintenance.</b> The Applicant/Owner shall implement measures to minimize the potential for desert tortoise and other wildlife species mortality along access and maintenance roads. These measures shall include:</p> <ol style="list-style-type: none"> <li>1. A speed limit of 15 miles per hour will be maintained on all dirt access/maintenance roads, and all vehicles must remain on designated access/maintenance roads.</li> <li>2. Pedestrian access outside the limits of the designated access/maintenance roads is permitted year-round as long as no ground-disturbing activities take place.</li> <li>3. Vehicle traffic and parking shall be confined to designated access roads, and equipment and materials staging areas shall be clearly defined to avoid impacting habitat during the operation phase.</li> </ol>

## Correspondence of Soda Mountain Solar APMs to PA/DEIS/DEIR Mitigation Measures

APM	Mitigation Measure
plant species and cacti observed will be flagged for transplantation.	

# **ORGANIZATIONS**

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## Comment Letters



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protecting and restoring natural ecosystems and imperiled species through  
science, education, policy, and environmental law  
CALIF. DESERT DISTRICT  
MORENO VALLEY, CA  
via email and USPS

2/7/2014

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**RE: Request for 60 day extension to comment deadline on the Draft EIS/R for the Soda Mountain Solar Project**

Dear Mr. Childers,

On behalf of the Center for Biological Diversity's more than 675,000 members and on-line activists, I am writing to request that an additional 60 days be added to the public comment period for the Soda Mountain Solar Draft Environmental Impact Statement and Report (DEIS/R). The DEIS/R is close to 2000 pages including the appendices and not all of the relevant reports cited in the document are available in it. The current 90-day comment period requires tracking down data and reports that were not provided in the DEIR/S, reading and checking numerous pages, digesting them and ultimately formulating detailed comments. The complexity of the project site and its impact on the threatened desert tortoise, and other rare desert wildlife as well as its adjacency to existing conservation investments makes this project controversial at best and likely very impactful to the heart of the greater Mojave ecosystem. Additional time for comments enables the public to bring forth scientific facts that will provide the decisionmakers with additional information upon which to base a decision. Therefore, we request that the comment period be extended for an additional 60 days for a full 150 days of public comment opportunity.

Respectfully submitted,

Ilene Anderson

Arizona • California • Nevada • New Mexico • Alaska • Oregon • Washington • Illinois • Minnesota • Vermont • Washington, DC

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## Basin and Range Watch

February 27th, 2014

To: Jeff Childers,  
Project Manager  
22835 Calle San Juan De Los Lagos,  
Moreno Valley, CA, 92553  
Email: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Subject: Please accept these comments for the Draft Environmental Impact Statement (DEIS) for the Soda Mountains Solar Project **CACA #049584**

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open spaces. We have visited the Soda Mountains Solar Energy Project site. We have hiked on the site, camped on the site and own private land within the Mojave National Preserve. Our interests and love for the Mojave National Preserve would be threatened by the approval of this project. We are concerned about the direct and cumulative impacts that the project would have on the region.

**DEIS is Incomplete:** The DEIS has several outstanding unresolved issues and the use of “adaptive management” may not likely cover all of the problems that have been overlooked. For this reason, the DEIS comment deadline should be delayed until BLM can provide more information for this project. Because the applicant has no Power Purchase Agreement, there should be no hurry to review the project.

### **Poor Pubic Review Process:**

The Draft Environmental Impact Statement has made it far in the NEPA process, yet the BLM has failed to fully identify the impacts that would be created by this project and also fails to come up with adequate mitigation that would attempt to offset the impacts that would be created by approval of the project. Furthermore, the BLM in California is not placing comments from public meetings on the record. Several groups and individuals have complained about BLM’s unwillingness to record public comments at meetings. This has happened at a few meetings now concerning large renewable energy projects. By not placing oral comments on the public record, BLM is in violation of the American Disabilities Act. If someone who cannot write wants their comment on the record, there seems to be no way for them to do so. At the meeting for the Soda Mountains Project in Yucca Valley, California, you were asked by the

public to extend the comment period. These comments requesting an extension for the comment deadline were made to address the inadequacies of the DEIS. The National Environmental Policy Handbook, written by the BLM states:

*"You must maintain records of public meetings and hearings including a list of attendees (as well as addresses of attendees desiring to be added to the mailing list) and notes or minutes of the proceedings. Consult 455 DM 1 for procedural requirements related to public hearings. Check individual program guidance to determine requirements for public meetings and hearings."*

And:

*"In many cases, people attending field trips and public meetings will be interested and/or affected parties. Make sure that you have attendance sheets that capture contact information at your field trips and meetings; these will provide you with a list of people who may want to be contacted about and involved in the NEPA process. In some cases, those affected by your proposed action may not be actively engaged in the NEPA process. In these cases, it is still important for you to reach out to those individuals, parties, or tribes, and we recommend using a variety of methods to help inform and engage those affected."...*

[http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning\\_and\\_Renewable\\_Resources/NEPS.Par.952.58.File.dat/h1790-1-2008-1.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/NEPS.Par.952.58.File.dat/h1790-1-2008-1.pdf)

The BLM is in violation of its own guidelines by not documenting public comments at meetings

**Purpose and Need Statement:** The BLM's Purpose and Need Statement for the Soda Mountains Draft Environmental Statement is a weak statement that ignores BLM's "need" to permit renewable energy on public lands in an environmentally responsible fashion. The statement also ignores the need to consider more environmentally friendly alternatives to the project. The statement fails to acknowledge the public request to recognize the "need" to protect wildlife, visual, cultural, public access and hydrologic resources.

The Purpose and Need Statements in many BLM large scale renewable project EIS documents reflect a need to develop so many megawatts on so many acres of public lands. All alternatives are now defined by a Need reflecting the recent Secretarial Order 3283: Enhancing Renewable Energy Development on Public Lands. The goals of Section 4 in Secretarial Order 3283 clearly state a need for environmental responsibility: *"the permitting of **environmentally responsible** wind, solar, biomass, and geothermal operations and electrical transmission facilities on the public lands;*

The Soda Mountains Solar Energy Project in its proposed location would be inconsistent with the Best Management Practices concerning the National Environmental Policy Act, the Endangered Species Act, and the Federal Lands Management Policy Act, etc and should not be considered "environmentally responsible".

The Purpose and Need Statement also states: "In accordance with Section 103(c) of the Federal Land Policy and Management Act (FLPMA) of 1976, public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources."

There is nothing in FLPMA that states the need for renewable and non-renewable resources trumps the responsibility to protect natural, cultural and visual resources from unnecessary harm. Equally, there is nothing specific in FLPMA that points out that the project site targeted for the project needs to be developed. In fact, FLPMA stresses preservation of important resources as pointed out in Section 8 in the FLPMA Declaration of Policy: *“the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use”*.

The Purpose and Need Statement also refers to the President’s climate action plan:

*“The President’s Climate Action Plan, announced on June 25, 2013, to reduce carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to address global climate change. To ensure America’s continued leadership in clean energy, the Climate Action Plan set a new goal for the Department of the Interior to permit enough renewable electricity generation from public lands to power more than 6 million homes by 2020. This goal will require the approval of 20,000 MWs of renewable energy projects on the public lands by 2020.”*

The climate action plan does not specifically target the Soda Mountains Solar Project site for development. In fact, any sound climate action plan would recognize the potential for 4,000 acres of established Mojave Desert habitat to sequester CO<sub>2</sub>. The alluvial fans of the Soda Mountains contain thick caliche which sequesters CO<sub>2</sub>.

The Soda Mountains Solar Energy site would convert up to 5 square miles of Mojave Desert habitat into a solar farm. Public land access would be extremely limited and other land use would be impaired. It would be impossible to manage these lands for multiple use when so much of the land is sacrificed for just one use.

We would like to request that the Purpose and Need statement be rewritten to include mandates to protect sensitive biological, hydrological, cultural and visual resources. We would also like the statement to include a mandate to maintain access to public lands as well as preserve in the California Desert Conservation Area.

### **Alternatives:**

Following the guidelines of the National Environmental Policy Act, a full range of alternatives should be considered in every Environmental Impact Statement.

Also following the guidelines of the National Environmental Policy Act, the final EIS should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. In this section agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) **Include reasonable alternatives not within the jurisdiction of the lead agency.**

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives. We would like to request that the following alternatives be included in the Draft Environmental Impact Statement.

Under the California Environmental Quality Act, an EIR is required to examine a “reasonable range” of alternatives to the project or its location. These must include the “no project” alternative. Alternatives must be feasible, meet most of the project objectives, and reduce one or more of the project’s significant effects.

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify an environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project area and its surrounding environment.

California's Renewables Portfolio Standard of achieving 33 percent renewable energy by 2020 does not say that the proposed location of the Soda Mountains Solar Energy Project is required to achieve this goal.

The BLM failed to consider a regional range of alternatives. Furthermore, The BLM has rejected reasonable alternatives because they claim none of them are “environmentally superior” or feasible for the applicant.

Many alternatives were rejected for reasons that the BLM fails to explain adequately.

**Private Land Alternative:** A private lands alternative has been rejected by BLM because it “does not meet BLM’s Purpose and Need to respond to the application.” Furthermore, BLM states that the applicant examined 4,853,760 acres of lands within 50 miles of the proposed ROW to determine whether a suitable private site could be found for the Project. There is a simple answer to this. Require the applicant to look for an off-site alternative further away than 50 miles from the proposed site. There is nothing written in the National Environmental Policy Act or the California Environmental Quality Act that requires an alternative to be 50 miles or less from a proposed project site. All remote utility scale projects lose power in the transmission journey. Depending on the age of the transmission line and even the heat, there can be a 7 to 15 percent power loss in transmission. Siting remote energy project will always have this problem. And wind farms in Wyoming are already sending power 1,500 miles away to

Los Angeles. A private lands alternative should be reconsidered. Or the BLM can select a No Action Alternative and justify it with a alternate location on private lands.

**Brownfields and Degraded Lands Alternative:** The US Environmental Protection Agency has identified over 15 million acres of brownfields in the United States that would be suitable for utility scale solar development. See here: <http://www.epa.gov/brownfields/sustain.htm>

The Arizona BLM is reviewing the "The Restoration Design Energy Project"

[http://www.blm.gov/az/st/en/prog/energy/arra\\_solar.html](http://www.blm.gov/az/st/en/prog/energy/arra_solar.html) (RDEP), funded by the American Recovery and Reinvestment Act of 2009, which supports the Secretary of Interior's goals to build America's new energy future and to protect and restore treasured landscapes. The following statement is made:

**"Emphasis will be on lands that are previously disturbed, developed, or where the effects on sensitive resources would be minimized. The BLM intends to use the results of the EIS to amend its land use plans across Arizona to identify areas that are considered to be most suitable for renewable energy projects."**

***While these amendments will only apply to BLM-managed lands, the EIS will examine all lands in Arizona and serve as a resource to the public, policy makers, and energy planners."***

BLM rejects a brownfields alternative for similar reasons to the private lands alternative. We provided you with the following alternative. It is within a reasonable distance from LA and has 24,000 acres to work with. Any transmission hookups are the responsibility of the applicant.

The Westlands Solar Park (WSP) is a Competitive Renewable Energy Zone (CREZ) identified by the Renewable Energy Transmission Initiative (RETI) located in northwestern Kings County in central California. The WSP includes the phased development of utility-scale solar PV generating facilities with a total capacity of approximately 2,400 MW on about 24,000 acres of drainage-impaired agricultural lands in the southeastern portion of the Westlands Water District. The EIR will also evaluate three planned transmission corridors in the region, which are intended to facilitate the conveyance of renewable energy. More information on the project and its goals are included in the NOP. More on the Westlands Solar Park can be seen here: [www.westlandswater.org](http://www.westlandswater.org)

**Distributed Generation Alternative:** Distributed generation in the built environment should be given more full analysis as a completely viable alternative. This project will need just as much dispatchable baseload behind it, and also does not have storage. But environmental costs are negligible with distributed generation, compared with this project. Distributed generation cannot be "done overnight," but neither can large transmission lines across hundreds of miles from remote central station plants to load centers. Most importantly, distributed generation will not reduce the natural carbon-storing ability of healthy desert ecosystems, will not disturb biological soil crusts, and will not degrade and fragment habitats of protected, sensitive, and rare species.

Germany is a distributed generation success story and has installed 22 GW of renewable energy in 2012, about 80 percent of which is in the built environment. This alternative is viable and can be integrated into the grid.

***In-Depth: Germany's 22 GW Solar Energy Record*** Read more at

<http://cleantechnica.com/2012/05/31/in-depth-germanys-22-gw-solar-energy-record/#XJfxt6OcUUkdvr3S.99>



The BLM calls Distributed Generation “speculative” however this should be revisited. Bill Powers has written some very informative papers about the benefits of distributed generation:

<http://solarDoneright.org/index.php/briefings/category/C4/>

**Desert Renewable Energy Conservation Plan (DRECP) Alternative:** The 10,000 page Draft Environmental Impact Statement for the Desert Renewable Energy Conservation Plan is now undergoing administrative review with the BLM. It seeks to designate Conservation zones and development zones on 22 million acres in the California Desert. You were asked by several individuals and organizations to include the Soda Mountains site in the conservation focus of DRECP. You are not because you are saying that the application for this project predates DRECP. That seems like a weak reasoning. The DRECP is not ready yet. It is dealing with a very large amount of land. The DEIS process for this project should be delayed to allow negotiations that would incorporate this site into a conservation zone for DRECP.

For the **Conservation and Demand Side Management Alternative**, BLM states that “these efforts also do not respond to federal mandates to promote, expedite, and advance the production and transmission of environmentally sound energy resources, including renewable energy resources and in particular, cost-competitive solar energy systems at the utility scale.”

The BLM’s own Purpose and Need Statement requires that utility scale projects be built in an “environmentally responsible” fashion. Due to the outstanding unresolved environmental conflicts created by this project, an energy conservation alternative can be used to justify selecting a No Project Alternative.

**Our preferred alternative:** Choose a Conservation Alternative that designates the inappropriate for large scale solar energy. The area should be designated a conservation status.

#### **Affected Environment/Environmental Consequences:**

##### **Air Quality:**

On Page 3.2-5, the DEIS states:

*“The Project site is not within the immediate vicinity of non-residential sensitive receptors (e.g., schools, hospitals, daycare centers, long-term care facilities). The closest schools are Baker Elementary, Middle, and High Schools, which are all over 6.5 miles from the Project site, in the northeastern portion of the town of Baker. The closest residences to the Project site are located adjacent to the service station on Razor Road, approximately 230 feet southwest of the requested Project ROW (see Figure 3.2-1, which shows residence locations). The residences include a single-family residence and workforce housing for four employees.”*

In the Mojave Desert, fugitive dust travels further than 6.5 miles. Baker may be a small town, but over 700 people live there and fugitive dust could threaten health. This is an **Environmental Justice** issue and should be talked about in the EJ section. The DEIS fails to fully analyze the health impacts that airborne particulates from construction dust will have on the local residents of the area. These communities

include Baker, California, the Desert Studies Center at Zzyzx and Rasor Road. Coccidioidomycosis (Valley Fever) is a common issue that impacts desert communities when dust is stirred up.

Removal of stabilized soils and biological soil crust creates a destructive cycle of airborne particulates and erosion. As more stabilized soils are removed, blowing particulates from recently eroded areas act as abrasive catalysts that erode the remaining crusts thus resulting in more airborne particulates.

We are concerned that industrial construction in the region will compromise the air quality to the point where not only visual resources, but public health will be impacted.

We are also concerned that the applicant will have no choice but to use more water in an already over-drafted aquifer to control the large disturbance they intend to create.

The project will be located adjacent to the Rasor Road Off Highway Vehicle Area. Have you considered that OHV's create a lot of dust? Have you considered that this will increase the amount of water needed for panel washing?

Construction should not be permitted during days of high winds. Wind speeds of 10 MPH and higher should be determining factors that limit construction. Construction should also be limited during the hottest months of the year. Evaporation rates will be greatest during the months of June, July and August.



^Desert Sunlight Project near Desert Center, California. These dust storms were reported to be rare before the construction of the project began.

The DEIS has listed mitigation for air quality resources. The applicant will be required to apply water twice a day to new roads and other disturbances. Applying water only twice a day will not control dust, especially when temperatures climb above 44 C or 110 F evaporation will exceed the amount of water used for dust control. Any increase in water use will impact hydrological resources indicating that this is an irresponsible site to build a solar project. After Solar Trust of America was issued the ROW for their Blythe Solar Project, they started to have financial issues. Before filing for insolvency, Solar Trust bulldozed a network of roads on the site. They were watering the roads twice per day. This did not control the fugitive dust.



^Blythe Solar Power Project site, June 2011. The fugitive dust is coming from the water truck that is supposed to control the dust.



^Fugitive dust on the Ocotillo Wind Express Project was kicked up by high winds on February 28<sup>th</sup>, 2014.. Is this what we can expect for the Soda Mountains Solar Project?

Construction dust plumes from the Soda Mountains Solar Project would impact the view from the Mojave National Preserve.

### **Hydrology/Water Resources:**

Most of the hydrological impacts will occur from dust mitigation. The BLM has failed to:

- Discuss the use of dust soil binders and dust palliatives
- Considered an alternative to water for panel cleaning.

While we request a No Project Alternative, we are surprised the BLM rejected Alternative F (No Use of Groundwater) because they claim it is not environmentally superior. The BLM claims that selecting this

alternative would create an air quality problem. The proposed alternative allows water wells and groundwater depletion. The justification is that Alternative F would create more air emissions. The DEIS does not clarify if these emissions would be fossil fuel emissions or fugitive dust. So the BLM would essentially risk removing important habitat for the Mojave tui chub in an attempt to offset more emissions? If the problem is more dust, BLM can simply require the applicant to bring more water to the site. If the problem is Greenhouse gas emissions, BLM could require the applicant to use hybrid or electric vehicles to haul the water or cleaning the panels without water.

And there actually are some ways to clean the panels without water:



^This PV cleaning robot, the Gekko G3, developed by Niederberger Engineering and built and sold by Serbot, can clean up to 400 square meters of PV module surface per hour. Photo: Niederberger Engineering AG  
[http://www.pv-magazine.com/archive/articles/beitrag/let-the-light-shine-through-100005421/86/?tx\\_ttnews%5BbackCat%5D=192&cHash=4caddfb91d234ed7cfb8c52fa24062ef#ixzz2uak2Z2VG](http://www.pv-magazine.com/archive/articles/beitrag/let-the-light-shine-through-100005421/86/?tx_ttnews%5BbackCat%5D=192&cHash=4caddfb91d234ed7cfb8c52fa24062ef#ixzz2uak2Z2VG)

The DEIS provides uncertain data on the hydrology of the groundwater supply that the applicant will be extracting:

*“Recharge rates ranged from 38 percent for highly permeable rock to 0.2 percent for a system where recharge was dominated by streamflow. In systems similar to the project area and consisting of weathered and fractured granitic rock and metamorphic rock, recharge ranged from 7.8 to 8.8 percent (Panorama Environmental, Inc., 2013a). Studies within the Mojave Basin and Death Valley found that 10 percent of runoff becomes recharge (Panorama Environmental, Inc., 2013a). An estimate of 7.8 percent for mountain-front recharge is comparable to the value of approximately 10 percent of runoff becoming recharge in the Mojave Desert and is assumed for the Soda Mountain subbasin as a conservative estimate based on the results of these studies (Panorama Environmental, Inc., 2013a).”*

And:

*“The Soda Mountains subbasin is geographically and topographically isolated and does not receive much, if any, inflow from adjacent groundwater basins. Consequently inflow/outflow from the basin was not included in estimates of groundwater availability or recharge (Panorama Environmental, Inc., 2013a).”*

While the DEIS assures there will be adequate recharge, the speculative nature of the analysis indicates that recharge is very limited in this environment. We are not convinced that this project will not tap into the fossil aquifer and like other large scale energy projects. The applicant may be underestimating their projected water use.

There is inadequate mitigation listed for impacts to groundwater resources. The project will potentially impact and impair the wetlands ecosystems of Soda Springs and threaten the federally endangered Mojave tui chub.

BLM is referring to adaptive management mitigation to deal with possible impacts to groundwater. We should remind BLM that their “adaptive management” strategy is not working out on some of their recently approved solar projects regarding avian mortality. We are concerned that the applicant will damage this aquifer before the BLM takes the appropriate action to stop them.

The applicant has provided an even worse mitigation scenario. From page 2-17 of the DEIS:

*“If, as described in APM 17, the recalibrated model predicts outflow from the northeast outlet of the Valley reduced by an amount in excess of 50 AFY, the Applicant will hire a professional hydrogeologist or geologist to develop a groundwater monitoring plan for submittal to and acceptance of BLM and San Bernardino County. The groundwater monitoring plan would include monitoring and quarterly reporting of groundwater levels within the Valley, in the alluvial aquifer adjacent to Soda Spring and west of Soda Lake, and at Soda Spring during construction of the project. If the Project is shown to cause a decline in groundwater levels of 5 feet or more in the alluvial aquifer near Soda Spring, or there is a decrease in groundwater discharge at Soda Spring as a result of Project groundwater withdrawal that results in the water level in the spring decreasing to less than 4 feet deep, which would threaten the tui chub [see Section 3.4, Biological Resources – Wildlife], an evaluation would be conducted to determine if the Project is causing reduced groundwater discharge at Soda Spring. If it is determined that the Project has caused a decrease in the volume of groundwater discharged at Soda Spring such that the spring is less than four feet deep, thereby threatening the tui chub habitat, then the project shall correspondingly curtail withdrawal of groundwater and import a corresponding amount of water from outside of the Valley. Groundwater level measurements in the monitoring wells located in the Valley would be compared to the model predictions on an annual basis during construction and every five years during project operation. The groundwater model would be recalibrated if the measured drawdown values in the monitoring wells exceed the predicted values by more than 15 percent. Monitoring would cease after 5 years of operational monitoring if two conditions are met: ① The monitoring data support the model predictions. ② The model predicts the reduction in outflow from the northeast outlet will be less than 50 AFY under proposed project conditions, as detailed in APM 17. “*

We would hope the BLM will use more sound mitigation and penalties against the applicant if water levels fall.

The applicant has a bunch of lawyers who would feverishly argue that it was not their project that caused a 5 foot water level drop near Soda Springs. Mitigation should include serious warnings to the applicant that their permit will be cancelled and they will be fined if they impact the Soda Springs aquifer. We should not have to wait until there is a noticeable decline in groundwater to decide IF they are responsible.



A hydrologist should be hired by the BLM, not the applicant. There should be no bias in the conclusions of the hydrologist. The permit should be suspended if drawdown by the wells is 3 percent or more, not 15 percent. Noticeable declines of 6 inches or more at Soda Springs should be justification to suspend the permit of the applicant. Five feet is waiting too long.

At this point, we are not convinced that the BLM will take the necessary precautions to protect this aquifer.

Charging the applicant with a “Take” for the Mojave tui chub would be the responsibility of the US Fish and Wildlife Service, but BLM has a greater responsibility to prevent that from happening.

Nowhere in the Water Resources section does the analysis include Soda Spring and the valuable open water areas that are crucial to conserve the Mojave tui chub. The south array groundwater is said to apparently connect with the Mojave Wash, as its surface runoff does. Recharge is said to be low in the subbasin, less than 10%, and in multiple dry years not at all. What is the potential impact on groundwater pumping to Soda Spring, which might receive a contribution from the Soda Mountains runoff through the alluvium of the project area? Studies of how Soda Spring relates to the groundwater of the Soda Mountains needs to be done before approval of this project.

#### **Visual Resources:**

There are no adequate KOP simulations from the higher parts of the Soda Mountains from the Mojave National Preserve.

There are no adequate KOP simulations from higher points on BLM lands. These points would include the North Soda Mountains and Wilderness Study Area, Cave Mountain and other unnamed promontory points that would look over the project. The DEIS should include better KOP simulations.

The night time KOP simulation is not adequate. It is just a close up of a facility. A night time simulation should be taken from a higher point in the Mojave National Preserve. This simulation should show a 4,000 acre facility with security lighting.

#### **Mojave National Preserve:**

Visual Resources overlap with socioeconomics. Since the Mojave National Preserve (MNP) was established in 1992, it has greatly increased in popularity. Any impact to visual resources is a potential impact to tourist dollars in local communities. By approving the Ivanpah Solar Electric Generating System, the Silver State South Project and the Stateline visitor experience to the Mojave National Preserve has already been degraded. There are other energy applications surrounding the MNP. The cumulative impacts of all of these projects will degrade the visitor experience and tourism economy of the Mojave National Preserve.

As BLM is aware, the project site is highly visible from then Mojave National Preserve. The polarized lake effect, glare and tangle of transmission lines will be visible in the day, security lighting will be visible all night from the project. Dust plumes from construction will impair the view from the MNP. There is no way to mitigate or offset the visual impacts that 4,000 acres of solar panels will have on this landscape.

The BLM admits that the project will have unmitigable impacts on visual resources. They also classify the region as a Class III Visual Resource Management region. A Class III is defined as *“objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements of form, line, color, and texture found in the predominant natural landscape features.”*

The facility would be so visually intrusive, it would not even meet the standards of VRM Class III. Taking up to 6 square miles, management activities will no doubt dominate the view! The facility would fall more into the category of VRM Class IV: *“objective is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.”*

The Silver State South Solar Project required a down- grade of the VRM class so the facility would fit more into the BLM’s Las Vegas Resource Management Plan. By allowing Class IV style development in a Class III VRM Zone, BLM should have to revise the Resource Management Plan.

We would also like to request that BLM re-evaluate the entire site for VRM II and even VRM I standards. Because the project is so large (six square miles of disturbance) the BLM’s VRM Class ratings are not good enough to define the whole area visually. The project will impact areas of different designated BLM VRM classes.

#### **Biological Resources:**

**Biological Soil Crust:** On 5 separate site visits to the project site, we have identified biological soil crust. The DEIS should have evaluated the amount of CO<sub>2</sub> that the soil crusts on the site can sequester and what kind of impacts so much physical removal of soil crust will have on the overall big picture relating to climate change.

#### **Crucifixion-thorn mitigation:**

On Page 3.3-22, the DEIS says:

*“To the extent feasible, the Project will be designed to avoid impacts to the Emory’s crucifixion-thorn population within the project ROW. No construction shall be allowed within a 100-foot buffer area around the Emory’s crucifixion-thorn population. All other California Rare Plant Rank (CRPR) 1 and 2 plant occurrences within the Project ROW will be documented during preconstruction surveys. The Applicant will also provide a 100-foot buffer area surrounding each avoided occurrence, in which no construction activities will take place, if feasible. If avoidance is not feasible, the Applicant will provide on-site mitigation (e.g., vegetation salvage) for impacts to rare plants.”*

This does not insure an ecological healthy population of these plants. By cutting off connectivity for pollinators and seed dispersers, these populations could eventually die off.

The plan will not allow the use of herbicides near the crucifixion-thorn population, but will allow the use of herbicides on just about all of the other 4,000 acres.

#### **Herbicides to Control Invasive Plants:**

The herbicide of choice is most likely going to be Glyphosate (Roundup).

While Roundup is a common herbicide, it is usually not used in such large quantities at one time. Glyphosate can be hazardous to human health as identified in [studies](#):

"Symptoms of exposure to glyphosate include eye irritation, blurred vision, skin rashes, burning or itchy skin, nausea, sore throat and difficulty breathing, headache, lethargy, nose bleeds and dizziness.

In lab tests, glyphosate and herbicides containing glyphosate caused genetic damage to human and animal cells.

Studies of farmers and other people exposed to glyphosate herbicides link this exposure to increased risks of cancer, miscarriages and attention deficit disorder.

Additional laboratory tests have confirmed the results of these studies. Laboratory evidence indicates that glyphosate herbicides can reduce production of sex hormones.

Application of glyphosate herbicides increases the severity of a variety of plant diseases.

Studies of glyphosate contamination of water are limited, but new results indicate that it can easily contaminate streams in both agricultural and urban areas.

Glyphosate herbicides cause more off-target damage incidents than all but one other herbicide — 2, 4-D. Glyphosate herbicides cause genetic damage and harm to the immune system in fish. In frogs, glyphosate herbicides cause genetic damage and abnormal development."

Glyphosate has also been linked to a decline of [Monarch butterflies](#) in Mexico and the USA.

In particular, glyphosate has impacted populations of Asclepias (milkweed).

Populations of common species of Asclepias such as (*Asclepias fascicularis*) occur on the site as well as rare species such as Utah milkweed (*Asclepias speciosa*). Monarchs use milkweed as a food plant.

So how will the BLM mitigate the impacts of the use of so much glyphosate? What other plants will be impacted? A list should be provided. How will the removal and development of this site impact migrating Monarch butterfly populations? What effects will herbicides have on adjacent species in the Mojave National Preserve.

If glyphosate infiltrates the groundwater supply, what impacts would this have on the Soda Springs complex and the life that lives there?

Please develop a "Physical Removal Only" alternative to using glyphosate for invasive plants.

**Mohave tui chub (*Gila bicolor mohavensis*):** We are saddened to read that the BLM would gamble with one of the 4 populations of this species that are remaining. The BLM admits that the hydrology of the region is not understood and has not figured out exactly where the water comes from, but at the same time concludes the project would have no impact on the species. The BLM will not even consider an

alternative that requires the applicant to bring in their water. Please do more groundwater studies for this project.

### **Mojave fringe-toed lizard (*Uma scoparia*)**

A possible connectivity corridor between populations of MFTL may be cut off by the southern solar array, between the Mojave River sand fields and sand areas to the west of the project. In addition, surveys make no attempt to map out or investigate potential movement habitat which may be less sandy but be used by lizards to cross flat desert valleys to access the best sand sites. We have seen *Uma* use these habitats in Chuckwalla Valley adjacent to typical sand flats and dunes. Small sand blowups on mountain slopes in the area should also be searched. On page E.1-48, this type of habitat and soil type is described which should be surveyed for MFTL:

*“...the southeastern region contains Rositas soils, which consist of very deep, somewhat excessively drained soils formed in sandy aeolian material. Rositas soils occur on dunes and sand sheets with slope ranging from 0 to 30 percent and a hummocky or dune micro-relief (URS 2009c).”*

Since fringe-toed lizards can be abundant on relatively small acreages, an estimate of how many individuals would be killed on the 5 acres would be helpful.

The sand transport map provided on page E.1-73 appears to us that the west to east prevailing winds could provide sand transport, but DEIS says there would not be favorable wind to create Aeolian transport. We believe that could be studied better for a possible different conclusion.

**Desert Tortoise:** While the project site is low in elevation, it still can support a small population of tortoises. The site provides a connectivity corridor for tortoises and can be abundant in wildflowers during an El Nino year. The DEIS states that the site provides 2,450 acres of desert tortoise habitat. This is how much will be lost if BLM issues a ROW for this project.

For direct impacts, the DEIS fails to identify illegal activity associated with hundreds of workers. It does happen. Not everyone who gets hired on one of these projects loves the desert tortoise and vandalism occurs.

For indirect impacts, the DEIS fails to identify stress, isolation and habitat fragmentation as catalysts for stress which can bring disease out in desert tortoises.

The DEIS fails to identify the combined cumulative impacts that a large solar farm and climate change would have on the local micro climate. At the recent Desert Tortoise Symposium in Ontario, California, Dr. Barry Sinervo, an evolutionary biologist from UC Santa Cruz, presented research that suggested that the very development of solar projects in arid regions facing a warming future will cumulatively add to the “local” heat index.

Sinervo states: *“We find that solar farms accelerate predicted extinctions by 50 years. Therefore, populations of *Gopherus* adjacent to solar farms may go extinct even before benefits of solar farms are realized (e.g., by 2080). In addition, the siting of solar projects in the Ivanpah Valley or near California City threatens the only habitat predicted to sustain population demography in 2080, effectively eliminating climate refuges for *G. agassizii*.”*

And:

*"We emphasize that while prospects look bleak for Gopherus it can be rescued from climate-forced extinction with aggressive limits on CO<sub>2</sub> input into the atmosphere. However, current and proposed solar projects will only hasten extinctions and likely eliminate the last remaining refuges for Gopherus from climate warming."*

He is saying that these developments will cause climatic effects that may expedite the extinction of desert tortoises by up to 50 years.

The Soda Mountains Site supports a small tortoise population as it is. It faces warm temperatures. If Sinervo's predictions are accurate, this could cause a local extinction of desert tortoises in the region.

The BLM should revisit this issue and develop a supplemental Environmental Assessment to examine the long term impacts this development will have on desert tortoises.

The abstract for the lecture can be viewed here:

<http://www.deserttortoise.org/symposium/2014Abstracts.pdf>

#### **Desert Bighorn Sheep (*Ovis canadensis nelsoni*)**

On page E.1-80, the DEIS quotes a version of the DRECP as saying the project area known as Soda Mountain Valley is "not mountain or intermountain bighorn sheep habitat". Yet on the previous page of the DEIS it was admitted a bighorn was recorded on the project site! If a sheep is on a site, that site is sheep habitat, even if it is not commonly used. Therefore we disagree with the DRECP designation.

The DEIS is also quoted in several sections stating that this project will have impacts on bighorn sheep that will be major.

We agree with John Wehausen, referenced on page E.1-84, that the Soda Mountain Valley is important connectivity habitat:

*"The DRECP identifies critical linkage areas at potential highway crossing locations along I-15 and I-40 using the expert opinion of John Wehausen (CEC 2012b). The entire Soda Mountain valley, including the project site and the surrounding mountains, is designated as a critical linkage in the DRECP ..."*





^photo of bighorn ewe crossing between mountain ranges near the Last Chance Range, Nye County, Nevada

We disagree therefore, that this is not habitat for bighorn sheep, and need not have well-used trails or other sign. We have seen lone bighorn sheep, especially rams, traveling along interstate highways looking for crossing points in valley and low hill habitats between mountain ranges. Such long-range movements would not leave trails but are very important for maintaining genetic flow between populations. The I-15 under crossings are viable movement corridors that should be left open and easily accessible without further development and disturbance, noise and human population.

Opah Ditch would fit such a connectivity point well in our opinion, for occasional use by bighorn following fence lines along highways until they find a crossing. We have observed this in other parts of bighorn range where a single ram was running along a highway fence in areas far from steep terrain, looking to cross. The project should be denied in this important crossing area for I-15.

#### **Solar Farm Avian Slaughter/Polarized Glare/Lake Effect:**

The Soda Springs complex supports a large list of avian wildlife.

A whole list of birds that occupy the wetlands can be seen here on the web page for the Desert Studies Center.

Water birds may use the Soda Springs to move between several desert wetlands including Grimshaw Lake, Saratoga Springs, and Ash Meadows National Wildlife Refuge.

The polarized "lake effect" is now well known from the Genesis, Desert Sunlight and Ivanpah Projects. Bird species that have collided (or dehydrated) with solar panels and heliostats include the Endangered Yuma clapper rail, peregrine falcon , American kestrel and a host of water birds.

At this point, those are among the few projects that are reporting findings of dead birds at their sites.

Here is the official list compiled by Rewire : <http://www.kcet.org/news/rewire/solar/water-birds-turning-up-dead-at-solar-projects-in-desert.html>

Genesis, March 13, lesser goldfinch  
Genesis, March 19, lesser goldfinch  
Genesis, March 28, bufflehead  
Desert Sunlight, April 3 eared grebe  
Desert Sunlight, April 15 surf scoter  
Genesis, April 17, black-throated grey warbler  
Genesis, April 17, house wren  
Genesis, April 17, orange-crowned warbler  
Desert Sunlight, April 18 great-tailed grackle  
Desert Sunlight, Week of April 21 red breasted merganser

Genesis, April 25, barn owl injured, taken to rehab  
Genesis, May 1, pied-billed grebe  
Genesis, May 1, eared grebe\* injured, to rehab  
Desert Sunlight, May 6 double crested cormorant  
Desert Sunlight, May 8 Yuma clapper rail  
Genesis, May 8, Wilson's warbler (poss. line strike)  
Genesis, May 14, yellow-headed blackbird\* injured, taken to rehab  
Genesis, May 15, hermit thrush (bulldozer)  
Genesis, May 16, Wilson's warbler  
Genesis, May 16, Townsends warbler  
Genesis, May 16, unidentified bird  
Genesis, May 22, western grebe injured, taken to rehab  
Genesis, May 22, yellow warbler  
Genesis, May 23, warbler, species unknown  
Genesis, May 24, unidentified sparrow  
Genesis, May 30, American coot  
Desert Sunlight, June 4, common loon  
Desert Sunlight, June 5, eared grebe  
Desert Sunlight, June 5, western grebe  
Desert Sunlight, June 5, western grebe live, released after consultation.  
Desert Sunlight, June 6, American coot  
Desert Sunlight, June 6, double crested cormorant  
Desert Sunlight, June 9, Common raven  
Genesis, June 10, brown pelican- injured, sent to rehab  
Desert Sunlight, June 19, hummingbird  
Genesis, July 10, brown pelican  
Desert Sunlight, July 10, brown pelican  
Desert Sunlight, July 11, brown pelican  
Desert Sunlight, July 13, brown pelican  
Desert Sunlight, July 15, black-crowned night heron

In early September, 2013, a peregrine falcon was injured badly (burned is what they say) on the Ivanpah Project and later died in rehabilitation. The August compliance reports for the Ivanpah Solar Electric Generating System confirm 7 bird kills on the project site. The reports can be viewed here:

[http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200540\\_20130920T095831\\_August\\_2013\\_MCR.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200540_20130920T095831_August_2013_MCR.pdf)

Since there would be no solar flux burning at Soda Mountains, the threats would be to birds colliding and dehydrating by getting deceived by the lake effect. The threats would be both at day and at night. Night time would potentially be the biggest threat to moving water birds.

The only real organized surveys for avian mortality are taking place at the Ivanpah Solar Project with only a 20 percent coverage. The rest of the finds are simply incidental which may indicate that mortality numbers are far greater than being reported.

The soon to be approved Blythe Solar Power Project would be a 4,000 acre PV facility near the Colorado River near Blythe, California.

At a hearing for the California Energy Commission, there were interveners. LABORERS' INTERNATIONAL UNION OF NORTH AMERICA had biologist Shawn Smallwood estimate a number of birds that would be killed for one of the interveners to the project. He estimated that over 2,100 birds would be killed per year by the 4,000 acre Blythe Solar Power Project. The estimate can be viewed here:

[http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152\\_20131108T155000\\_Testimony\\_of\\_K\\_Shawn\\_Smallwood\\_PhD.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152_20131108T155000_Testimony_of_K_Shawn_Smallwood_PhD.pdf)

The BLM should have a similar estimate prepared for the Soda Mountains Project before this review process is allowed to continue.

A monitoring plan should look for birds at full coverage no less than twice a week.

What mitigation is being discussed? Can single axis tracking units be turned upside down? Can the bottoms of the panels be painted a texture that will be non-reflective to where they will not attract birds at day or night? Has a curtailment option (turning panels upside down) been discussed for spring migration periods?

Has other mitigation been discussed? Such as placing horizontal bars across the panels to disrupt the lake effect?

Since there is so little known information about the polarized lake effect, we do not believe the BLM is ready to review a project like this that lies so close to a Mojave Desert wetlands. This is reason to select a No Action Alternative.

#### **Other Wildlife:**

The project will remove habitat for the desert kit fox, the burrowing owl and the American badger, all of which have suffered impacts from large scale energy projects. The project will remove foraging habitat for bats, golden eagles and other raptors.

#### **Desert Pavement:**

Desert Pavements are fragile geologic formations and can be damaged by even footsteps and will not recover in our lifetime. They can be tens of thousands of years old. The south project site has some very old desert pavement formations. These geologic formations should be recognized and preserved on Mojave Desert public lands, not developed for short term gain.

**Conclusion:**

The Soda Mountains Solar Project will destroy another part of the Mojave Desert and impact the Mojave National Preserve. It will impact desert wildlife and threaten Mojave Desert wetlands. This is the wrong location for this project. Please select a No Action Alternative for this project and protect the region with a conservation status.

Thanks,

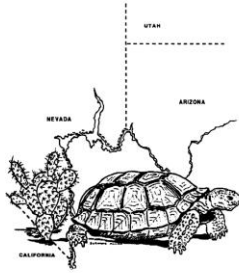
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## **DESERT TORTOISE COUNCIL**

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1 March 2014

To: Mr. Jeffery Childers, Soda Mountain Solar Project Manager  
Bureau of Land Management  
22835 Calle San Juan De Los Lagos  
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[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

RE: Formal comments on the Draft Environmental Impact Statement for Soda Mountain Solar project (CACA 49584)

Dear Mr. Childers,

The Desert Tortoise Council (Council) is a private, non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of this species. Established in 1976 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council regularly provides information to individuals, organizations and regulatory agencies on matters potentially affecting the desert tortoise within its historical range.

Herein, we provide formal comments on the Draft Environmental Impact Statement (Draft EIS) for Soda Mountain Solar project (CACA 49584):

1. Measure 71 in Table 2-5, page 2-32 of the Draft EIS states: "An adequate number of trained and experienced monitors must be present during all construction and decommissioning activities in unfenced areas, depending on the various construction tasks, locations, and season. The approved biologist shall be on site from April 1 through May 31 and from September 1 through October 31 (active season) during ground-disturbing activities in areas outside the exclusion fencing, and shall be on-call from November 1 to March 14 (inactive season)." This particular measure implies that only active tortoises found aboveground are subject to impacts. In fact, ground-disturbing activities are just as likely to impact tortoises in their burrows, regardless of the season. Additionally, both adult and subadult tortoises may be active and out of their burrows year-round, which is facilitated by warmer temperatures in the winter months and rainfall in the summer months.

We strongly recommend that authorized biologists be onsite for **all** ground-disturbing activities, throughout the year. The wording in APM 71 on page 3.4-29 should require that authorized biologists and/or environmental monitors be onsite whenever ground-disturbing activities occur, regardless of the time of year; excepting those fenced areas that have already been cleared of tortoises during previous clearance surveys. We also note that none of these seasonal restrictions are reiterated in Section 3.4.8, where detailed descriptions of tortoise mitigation measures are presented.

2. Measure 73 in Table 2-5, page 2-32 states: “Compensatory habitat mitigation shall be provided at a 1:1 ratio for impacts to suitable desert tortoise habitat during construction. A habitat compensation plan will be prepared to the approval of CDFW, USFWS, and BLM.” Whereas the BLM is likely to assess a per-acre compensation fee for development, California Department of Fish and Wildlife (CDFW) will require habitat compensation, endowment funds, and enhancement fees. It is extremely unlikely that CDFW will accept only 1:1 habitat compensation. Rather than state the compensation ratio will be 1:1, it is advisable to state that the compensation ratio will be determined in consultation with CDFW and other agencies. We suggest that AMP 73 given on page 3.4-29 be modified to reflect this reality. Discussions under Mitigation Measure 3.4-2d on pages 3.4-60 and -61 may also need to be modified.

3. Under **Alternative E**, the No Action Alternative, “The BLM would continue to manage the land consistent with the site’s multiple use classification as described in the CDCA Plan. Based on the CDCA Plan amendments made in the Solar PEIS ROD, for future applications the site would be identified primarily as variance areas open to future applications for solar development, subject to the procedures identified in the Solar PEIS, and some exclusion areas in the southeast portion of the site that would be closed to such applications. In the case of variance areas, future projects would still require a CDCA Plan Amendment to move forward. These projects would be subject to applicable laws and land use plans” (Section 2.6.1., page 2-36). Although the Council appreciates that this alternative would result in no project at this site, we prefer Alternative G, since Alternative E would leave the site open to future solar development.

4. Under **Alternative G**, “The BLM would continue to manage the land consistent with the site’s multiple use classification as described in the CDCA Plan with the exception that solar development would be precluded on the site” (Section 2.6.3., page 2-37). As such, Alternative G has the advantage of specifically excluding this particular site from future solar development, and is the Council-preferred alternative.

5. It is not clear in the Section 2.8.1 discussion of site alternatives that the proponent considered thousands of acres of biologically-impaired habitats east of Barstow, between Interstate-15 and Interstate-40, for example, although there is one mention of the Barstow Marine Corps Logistics Base on page 2-41. In a number of places, it seems that if the alternative site does not occur between Las Vegas and Barstow it is unacceptable, which dismisses thousands of acres of impaired private lands in the Victor Valley, for example. It seems as if all potential alternatives had the same regional restriction that the site must occur along I-15 between Vegas and Barstow, which eliminates many other, better suited alternative sites outside this corridor.



6. Section 2-7, page 2-38 concludes, “The CEQA Guidelines define the environmentally superior alternative as that alternative with the least adverse impacts to the project area and its surrounding environment; therefore, Alternative E [No Action Alternative] is considered the environmentally superior alternative for CEQA purposes because it would not create any of the localized impacts of the Project, even though would have a less beneficial impact than that of the Project on greenhouse gases.” Although Alternative G is preferred, Alternative E is also an acceptable alternative to the Council.

7. The proponent hired Peter Woodman to conduct protocol tortoise surveys, which are reported in Kiva Biological Consulting (2013). Therein, Woodman recommends that the eastern half of the East Array be excluded from development to avoid occupied tortoise habitat. Which of the alternative configurations follow this considered recommendation? It is not clear from the alternatives presented in the Draft EIS that Woodman’s recommendations were followed. We recommend that such an alternative be included in the Final EIS and that it be fully analyzed for its reduced impacts to tortoises compared to the proponent’s preferred alternative.

8. Contrary to the statements in Section 3.3.3.1 on page 3.3-17, the West Mojave Coordinated Management plan (WEMO Plan) was not adopted as a habitat conservation plan, was not implemented by either San Bernardino County or the City of Barstow, and does not provide for streamlined approaches for private entities to satisfy endangered species act requirements. Its prescriptions do apply to public lands managed by the BLM, as stated in the Draft EIS. These inaccuracies are repeated in Section 3.4.3.1 on page 3.4-21.

9. On page 3.4-9, the Draft EIS reports the following with regards to tortoise distribution in the study area: “Tortoise activity on the Project site *seems to be limited to the East Array area* [emphasis added], where sign was moderately wide-spread, particularly at the foot of the mountains to the east. Carcasses of two tortoises were detected in the North Array study area, but south of the North Array site, and tortoise sign was not detected in the South Array study area.” The statement is somewhat misleading with regards to tortoise activity northwest of Interstate 15, as the presence of carcasses is still indicative of tortoise activity, even if only historical, in the North Array study area. This is critically important when the amount of compensable habitat is determined; **all** portions of all arrays, including those with only carcasses, are compensable.

10. Importantly, the descriptions referenced above fail to recognize that 5 tortoise burrows, 3 rock cover sites, 9 scat, and 3 carcasses were found at the Opah Ditch Mine in 2001 by AMEC, which is in the vicinity of the North Array study area, as reported in Panorama’s 2012 report and depicted in Figure 10, therein. We note that these tortoise sign are presented in Figure 3.4-1 of the Draft EIS, but are not mentioned in the text, and provide evidence that tortoise sign is not limited to the East Array area as stated on page 3.4-9. Survey Results presented in the text on pages 3.4-8 and 3.4-9 must be augmented by results depicted in the appendices to be comprehensive in the Final EIS, particularly when known, published data clearly show that more than two dead tortoises occur (or have recently occurred) within the North Array study area, all of which must be considered compensable habitat.

11. On page 3.4-15, the Draft EIS fails to acknowledge that on 26 June 2013, Townsend's big-eared bat was identified as a candidate species for endangered species listing in California by the Fish and Game Commission. Whereas the state and federal statuses are given for all other animals in Section 3.4.2.3., State and federal statuses are omitted for Townsend's big-eared bat in this discussion. This may be explained by the date of the comprehensive biological report of March 2013 (Panorama Environmental Inc. 2013), but since the Draft EIS is dated November 2013, the June 2013 designation should have been acknowledged in the Draft EIS and impacts to this candidate species must be analyzed in the Final EIS.

12. Since Townsend's big-eared bat is currently designated as a candidate for State listing, we feel that the analysis in the Final EIS must be substantially greater than that given in the Draft EIS. As above, the Final EIS also needs to divulge this recent designation, which may warrant more mitigation than is currently provided for in the Draft EIS. The significance discussion given under Section Impact Wild-7 on page 3.4-69 should be expanded to discuss impacts to this new candidate species.

13. On page 3.4-19, the Draft EIS indicates that only one burrow with American badger digs was found. During our brief reconnaissance surveys on 12/12/2012, LaRue and Radakovich found 11 diagnostic badger digs within the North Array area and 8 digs within the East and South Array areas. We note that there are no mitigation measures identified in Table 2-5 for this species. Given our survey observations on only a fraction of the project area, we suggest that American badger is far more common than the Draft EIS suggests, and that mitigation measures are warranted to minimize impacts to this California Species of Special Concern. Although Kiva Biological Consulting (2013) indicates that badger sign was recorded (page 2 in Methods), it is not mentioned in the Results section. We cannot tell in Figures 7 and 8 which digs were attributed to badgers versus canids, as they are depicted with the same symbol.

14. Although we understand that the raven management plan is still to be submitted to the regulatory agencies, the Council believes that the proponent should commit to providing funds to the U.S. Fish and Wildlife Service (USFWS) for raven control and management. In a February 2011 biological opinion (8-8-10-F-66) to the Joshua Basin Water District, the USFWS (2011) required that the water district provide \$105/acre of impact to this raven control program. As a recent standard applied to other projects in the West Mojave, the Council feels that this fee should also apply to this project.

15. With regards to impacts, it is not clear why on page ES-1 of the Executive summary, the Draft EIS indicates that **2,557 acres** would be disturbed; on page 3.4-31, **2,455.57 acres** are identified as being permanently lost; and in the biological technical report (page E.1-12 in Appendix E), Table 1.3-1 reports that **2,968.5 acres** would be permanently lost. As the Draft EIS indicated in footnotes to several tables and on page E.1-10 in Volume 2, all impacts are considered permanent, so it's not clear why there are so many discrepancies among reported impact acreages. We strongly suggest that the estimated compensable habitat be identified in the Final EIS under Mitigation Measure 3.4-2d, which currently describes compensable impacts without ever estimating the acreage to be compensated.

16. Although the fourth paragraph on page 3.4-33 indicates there is an undisclosed estimate of the number of tortoises that may be present on the Project site, the Draft EIS never reveals this number. Assuming the biologists used the USFWS formula for estimating the number of tortoises that may occur based on survey findings, this estimated number must be included in the Final EIS to accurately determine the level of anticipated take, and to allow the regulatory agencies to determine how accurate that estimate is, if the project is developed.

17. Although the Draft EIS was circulated in November 2013, it never refers to Peter Woodman's (Kiva Biological Consulting 2013) April and May 2013 surveys of the three arrays, a North Translocation Area, South Relocation Area, and Burrowing Owl Buffer Areas. In fact, translocation areas are not specifically discussed in the Draft EIS, as they must be in the Final EIS. Many of the results given in the Draft EIS are corroborated by Woodman's findings, which are never divulged. Woodman also reports the estimated tortoise density of two adult animals, but this is not in the Draft EIS. The Final EIS must fully divulge the results of Woodman's survey results for it to be complete and acceptable.

18. The Final EIS needs to assess Woodman's (Kiva Biological Consulting 2013) findings to determine if the South Relocation Area and North Translocation Area are appropriate to receive displaced tortoises. On page 4, Woodman reports that five tortoise carcasses were found in the North Translocation Area. Does this indicate that the North Translocation Area may not be acceptable if only dead tortoises are found there? Similarly, tortoise sign had a "limited distribution" in the South Relocation Area; as such, is it still appropriate to receive displaced tortoises? The Final EIS needs to consider these data and determine if these translocation areas will or will not be appropriate. If not, does the proponent plan to survey new translocation areas?

19. Please note in Section 3.4.8 on page 3.4-51 that the Designated Biologist and field contact representative are not synonymous. Whereas the Designated Biologist serves to implement all protective measures and minimize impacts to tortoises and occupied habitats, the field contact representative serves as the liaison among the many involved parties, particularly in regards to compliance reporting. In practice, the Designated Biologist and field contact representative are rarely the same person.

20. We strongly recommend that Mitigation Measure 3.4-2b on page 3.4-58 be modified to indicate that the agency-approved Desert Tortoise Translocation Plan (DTTP) must be finalized and approved **before** any ground-disturbance activities occur or any tortoises are handled. As written, the Draft EIS indicates that a draft DTTP has been written (see page 3.4-33) but the formal mitigation measure fails to indicate a timeframe in which the DTTP must be completed. As above, will the proponent choose new translocation areas and analyze them in the Final EIS? We strongly discourage displacing tortoises into areas where only dead or no evidence of tortoises are found. How will potential for disease transmission among translocated and host tortoises be considered in the DTTP?

21. Under Mitigation Measure 3.4-2c-4b on page 3.4-59, in the event a tortoise is found dead, the Final EIS should reference any restrictive measures that may be required by either USFWS or CDFW. If that mortality results in exceeding the mortality take limit identified in the federal biological opinion, for example, project construction may need to be halted until formal consultation is reinitiated. This and any other remedial actions should be documented in the Final EIS.

22. Mitigation Measure 3.4-2d on pages 3.4-60 through 3.4-63 provides extensive, detailed information about acquiring compensation lands but only indirectly refers to habitat management without requiring that an agency-approved habitat management plan is drafted by the approved management entity. The Final EIS must specify that a habitat management plan will be written for acquired lands, address threats to those lands based on field surveys identifying those threats, and state that the compensatory lands will be managed in perpetuity and not be subject to future development.

23. We suggest that Mitigation Measure 3.4-5a on page 3.4-64 be amended with a fourth stipulation that indicates emergency measures to be implemented if a tortoise is accidentally injured or killed during routine operations and maintenance. This amended measure should also indicate that BLM, USFWS, and CDFW will be contacted immediately to provide input into how future injuries and mortalities can be avoided. It should also assess whether incidental take statements in the biological opinion or State 2081 permit have been met or exceeded by the particular event.

24. Mitigation Measure 3.4-5b on pages 3.4-64 and -65 fails to mention that the Worker Education Awareness Program (WEAP) should be administered on, at least, an annual basis to all facility employees, which is the industry standard for all other public agencies whose employees provide routine operation and maintenance activities in occupied tortoise habitats.

In conclusion, we appreciate that the Draft EIS dealt with most of the points the Council raised in our scoping letter (Desert Tortoise Council 2012), including points 1 and 2 (alternative sites are discussed); 3 and 4 (no longer emphasizing how badly disturbed the habitats are); 5, 6, and 7 (survey quality increased with detection of tortoises, where the proponent formerly asserted no impacts would occur); 8 (incidental take permits are being solicited); 9 (fringe-toed lizards were found in the area like we had suggested); 10 (better reference to existing studies); 11 (like we found in December 2012, burrowing owls are known to be on the site); 12 (similarly, American badger occurs, though the Draft EIS still fails to determine the level of impact); and 13 and 14 (the Draft EIS is more accurate regarding tortoise occurrence rather than referring to inferior tortoise habitats). Finally, we are still in support of Alternative G, as the location of the proponent's preferred alternative site was poorly chosen and would result in the loss of good-to-pristine habitats.

Submitted by,



Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson  
Edward L. LaRue, Jr.

#### Literature Cited

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***VIA ELECTRONIC MAIL AND U.S. MAIL***

March 3, 2014

Jeffery Childers  
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**Re: Comments on Soda Mountain Solar Project Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report CACA#049584**

Dear Project Manager Childers:

These comments are submitted on behalf of the Center for Biological Diversity's 675,000 staff, members and on-line activists in California and throughout the nation, regarding the Soda Mountain Solar Project Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report CACA#049584 ("proposed project"), issued by the Bureau of Land Management ("BLM"). The Center submitted joint scoping comments with other conservation organizations on December 14, 2012. We incorporate by reference those comments here.

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions. The Center for Biological Diversity (the "Center") strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

The proposed project right of way includes 4,179 acres of public lands, the proposed project construction and operation would disturb approximately 2,557 acres, and the final footprint would permanently disturb approximately 2,222 acres of public lands (DEIS/R at PDF page 18, 20). The proposed project also includes a substation and switchyard for interconnection to the existing transmission system and the realignment of Razor Road.



These lands, located in the heart of the Mojave Desert, provide habitat for many species including the threatened desert tortoise, the iconic desert bighorn sheep, imperiled Mojave fringe-toed lizard, declining burrowing owl, desert golden eagle and many others (DEIS/R at PDF pages 221-232 ). The DEIS/R for the proposed plan amendment and right-of-way application fails to provide adequate identification and analysis of all of the significant impacts of the proposed project on the desert tortoise, the Mojave fringe-toed lizard, golden eagles, migratory birds, desert bighorn, other biological resources and water resources; fails to adequately address the significant cumulative impacts of the project; and lacks consideration of a reasonable range of alternatives including an alternatives that would avoid impacts to intact lands and habitat such as distributed energy in the LA basin and elsewhere or alternatives that would reduce or eliminate impacts to rare species, connectivity corridors for wildlife and water resources.

Of particular concern is the BLM's failure to include adequate information regarding the impacts to resources and the failure to fully examine the impact of the proposed plan amendment to the California Desert Conservation Act Plan ("CDCA Plan") along with other similar proposed plan amendments. Outside of the No Action alternatives, the DEIS/R fails to consider potential alternative plan amendments that would protect the most sensitive lands from future development as required by the Solar PEIS. Alternative siting at another location and alternative technologies (including distributed PV) should have been fully considered in the DEIS/R, because they could significantly reduce the impacts to many species, habitats and water resources in the heart of the Mojave Desert directly adjacent to the Mojave National Preserve.

Although the proposed project area is currently within an identified "variance area" established in the BLM's solar PEIS, it purportedly is not subject "variance" review, because it was a so-called "pending" application. The Center opposed the adoption of overly broad variance areas based on the unproven need for additional areas outside of the Solar Energy Zones identified in the Solar PEIS and opposed allowing so-called "pending" applications to be treated differently than other projects after the PEIS was adopted. The fact remains that variance areas have intrinsically important natural values that make development in these areas less preferable than in the Solar Energy Zones. The Center remains concerned that this proposal threatens to undermine the "bioregional" approach in the CDCA Plan as a whole as well as violate the fundamental planning principles of FLPMA.

In our joint scoping comments on the DEIS/R, the Center and others raised concerns about the impacts that development at this location would have on sensitive species and habitats and to connectivity and water resources. As the Center has emphasized in our comments on the various large-scale industrial solar proposals in the California desert, planning should be done *before* site specific projects are approved in order to ensure that resources are adequately protected from sprawl development and project impacts are avoided, minimized and mitigated. In this case, although the planning in the PEIS has now been completed, and this project is a variance area, BLM's failure to apply current planning decisions—including analyzing projects under "variance lands" review—to this project undermines the PEIS and other bioregional

planning. (DEIS/R at PDF page 69). The BLM's failure to properly analyze this project in light of current planning undermines the intent of the PEIS and the CDCA Plan as a whole as rational planning principles.

In the sections that follow, the Center provides detailed comments on the ways in which the DEIS/R fails to adequately identify and analyze many of the impacts that could result from the proposed project, including but not limited to: impacts to biological resources, impacts to water resources, impacts to soils, and cumulative impacts. The DEIS is also inaccurate in its discussion of the governing land use plan—the West Mojave Plan amendment to the CDCA Plan ((DEIS/R at 3.3-17, PDF 186; wrongly stating that there is an HCP in place). This calls into serious question whether BLM has actually taken a hard look at the environmental impacts or considered the projects consistency with the actual West Mojave Plan amendments as required by FLPMA and NEPA.

#### **I. The BLM's Analysis of the Proposed Plan Amendment and Proposed Project Fails to Comply with FLPMA.**

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area ("CDCA"). 43 U.S.C. § 1781(c). Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with "historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources." 43 U.S.C. § 1781(a)(2). Congress found that this desert and its resources are "extremely fragile, easily scarred, and slowly healed." *Id.* In light of the threats to the unique and fragile resources of the CDCA, Congress determined that special management was needed for this area and among the purposes of designating this area was "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." 43 U.S.C. § 1781(b).

As part of FLPMA, Congress expressly required the development of a land management plan for the CDCA by a date certain (43 U.S.C. § 1781(d)). The CDCA Plan was first adopted by BLM in 1980. For the CDCA and other public lands, Congress mandated that the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C § 1732(b).

The proposed project is sited on federal public lands managed by the BLM within the CDCA, and will directly, indirectly and cumulatively impact lands within the CDCA including lands within one-half mile of the Mojave National Preserve (DEIS/R at PDF page 171). Under the CDCA plan as amended by the West Mojave Plan amendment ("WEMO"), the project requires a plan amendment before the proposed project can be approved by the land management agency, the BLM. The DEIS/R misrepresents the WEMO Plan amendment – which is a BLM plan amendment to the CDCA Plan. The HCP that was under development was never adopted as an by any county or approved by FWS. (DEIS/R at 3.3-17, PDF 186). BLM must fully and

accurately consider whether the proposed plan amendment would be consistent with the West Mojave Plan amendment to the CDCA Plan – the DEIS does not show that it has done so to date.

While the DEIS/R correctly recognizes that plan amendments would be required if the proposed project was to move forward – for the solar facility – we failed to find language for the plan amendment relating to any of the alternatives, including the preferred alternative. Based on the lack of proposed plan amendment language, the DEIS/R fails to provide adequate information on the alternatives including the preferred alternative and must be revised and recirculated. The BLM also failed to take a comprehensive look at the proposed plan amendment for the ROW to determine: 1) whether an industrial scale project is appropriate for any of the public lands in this area; 2) if so, how much of the public lands are suitable for such industrial uses given the need to balance other management goals including preservation of habitat and water resources; and 3) the location of the public lands suitable for such uses.

As the BLM is well aware, the Center has repeatedly sought stronger protections for species and habitats throughout the CDCA as a whole and specifically within the West Mojave planning area. Clearly a more robust strategy for conservation is required if BLM is going to consider approval of an industrial solar project within the CDCA covering thousands of acres when this scale of impacts was never contemplated in the CDCA planning or the West Mojave bioregional plan.

In addition, as the DEIS/R acknowledges, the preferred alternative will result in air quality impacts, which is inconsistent with the Class L and M lands designation to protect air quality and visibility (DEIS/R at PDF pg 30). Given the impact of the proposed project on other multiple uses of these public lands at the proposed site as well as other aspects of the bioregional planning, it is clear that BLM may also need to amend other parts of the plan as well and should have looked at additional and/or different amendments as part of the alternatives analysis.

#### **A. BLM Fails to Adequately Address the Effects on Ongoing Planning for the Desert Renewable Energy Conservation Plan (DRECP)**

The DEIS/R fails to adequately address the proposed project in the context of the ongoing DRECP planning process for solar development in the California desert, for which BLM is a guiding agency. Of particular concern is the failure of the DEIS/R to analyze the impacts of the proposed project on the goals and objectives for species under the DRECP, particularly avian species, desert kit fox, desert tortoise, desert bighorn and other species, and movement corridors that would result from the approval of this and other projects in the area. Such analysis *after the fact* is not consistent with the planning requirements of FLPMA or, indeed, any rational land use planning principles.

#### **B. BLM Failed to Inventory the Resources of these Public Lands Before Making a Decision to Allow Destruction of those Resources**

FLPMA states that “[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values,” and this “[t]his inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values.” 43 U.S.C. § 1711(a). FLPMA also requires that this inventory form the basis of the land use planning process. 43 U.S.C. § 1701(a)(2). See *Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen*, 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM’s statutory obligations to engage in a continuing inventory under FLPMA). It is clear that BLM should not approve a management plan amendment based on outdated and inadequate inventories of affected resources on public lands.

As detailed below in the NEPA sections, here BLM has failed to compile an adequate inventory of the resources of the public lands that could be affected by the proposed project *before* preparing the DEIS/R (including, e.g., rare plants, golden eagle surveys, migratory bird surveys and other biological resources) which is necessary in order to adequately assess the impacts to resources of these public lands in light of the proposed plan amendment. The DEIS/R indicates that plant and wildlife surveys were initiated in 2009 on the project site, but most of the surveys were of too short duration to draw conclusions about site resources – a single year – or two non-sequential years – basically resulting in a “snapshot in time” of existing biological resources, not comprehensive data sets. The inadequacies of the surveys are particularly problematic given the controversy regarding this proposed project site in the heart of the Mojave and adjacent to the Mojave National Preserve.

BLM has also failed to adequately analyze impacts on known resources therefore, at minimum, a revised or supplemental DEIS must be prepared to include several categories of additional information including more comprehensive survey data about the biological resources of the site and potential impacts of the project on those resources of our public land and water, and that document must be circulated for public review and comment.

### **C. The DEIS Fails to Provide Adequate Information to Ensure that the BLM will Prevent Unnecessary and Undue Degradation of Public lands**

FLPMA requires BLM to “take any action necessary to prevent unnecessary or undue degradation of the lands” and “minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved.” 43 U.S.C. §§ 1732(b), 1732(d)(2)(a). Without adequate information and analysis of the current status of the resources of these public lands, BLM cannot fulfill its duty to prevent unnecessary or undue degradation of the public lands and resources. Thus, the failure to provide an adequate current inventory of resources and environmental review undermines BLM’s ability to protect and manage these lands in accordance with the statutory directive.

BLM has failed to properly identify and analyze impacts to the resources from all of the project components including, for example, the impacts of thousands of acres of PV panels on avian species. As detailed below, the BLM's failure in this regard violates the most basic requirements of NEPA and in addition undermines the BLM's ability to ensure that the proposal does not cause unnecessary and undue degradation of public lands. *See Island Mountain Protectors*, 144 IBLA 168, 202 (1998) (holding that "[t]o the extent BLM failed to meet its obligations under NEPA, it also failed to protect public lands from unnecessary or undue degradation."); *National Wildlife Federation*, 140 IBLA 85, 101 (1997) (holding that "BLM violated FLPMA, because it failed to engage in any reasoned or informed decisionmaking process" or show that it had "balanced competing resource values").

## **II. The DEIS Fails to Comply with NEPA.**

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony." *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to "ensure that [federal agencies] ... will have detailed information concerning significant environmental impacts" and "guarantee[] that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). "An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and ... inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.'" *Or. Natural Desert Ass'n*, 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than "general statements about possible effects and some risk" or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." *NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).

NEPA also requires BLM to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency “must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential.” 40 C.F.R. § 1500.1(b).

Where there is incomplete information that is relevant to the reasonably foreseeable impacts of a project and essential for a reasoned choice among alternatives, the BLM must obtain that information unless the costs of doing so would be exorbitant or the means of obtaining the information are unknown. 40 C.F.R. § 1502.22. Here the costs are reasonable to obtain information needed to complete the analysis and the BLM must provide additional information in a revised DEIS/R. Even in those instances where complete data is unavailable, the DEIS/R also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen*, 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) citing *Save our Ecosystems v. Clark*, 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22.

Here, there is incomplete information in several relevant areas and BLM has not shown that it cannot be obtained. Therefore, BLM must obtain additional information, provide additional analysis, and revise and recirculate the DEIS/R.

#### **A. Purpose And Need and Project Description are Too Narrowly Construed and Unlawfully Segment the Analysis**

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a “hard look” at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply “going-through-the-motions.” It is well established that NEPA review cannot be “used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) (“the comprehensive ‘hard look’ mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.”) As Ninth Circuit noted an “agency cannot define its objectives in unreasonably narrow terms.” *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and alternatives are closely linked since “the stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives.” *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that “[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives” in violation of NEPA).



The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to “guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because “the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project.” *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

The DEIS/R states “The BLM’s purpose and need for the Project is to respond to the Applicant’s application under Title V of the FLPMA (43 USC §1761(a)(4)) for a ROW grant to construct, operate, maintain, and decommission a solar PV facility on public lands in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws.” (DEIS/R at PDF page 66). BLM’s purpose and need is very narrowly construed to the proposed project itself and amendment to the Plan *for the project only*. The purpose and need provided in the DEIS/R is impermissibly narrow under NEPA for several reasons, most importantly because it foreclosed meaningful alternatives review in the NEPA documents. Because the purpose and need and the alternatives analysis are at the “heart” of NEPA review and affect nearly all other aspects of the EIS, on this basis and others, BLM must revise and re-circulate the DEIS/R.

In its discussion of the need for renewable energy production the DEIS/R fails to address risks associated with global climate change in context of including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

The habitat fragmentation, loss of connectivity for terrestrial wildlife, risks to avian species, possible introduction of increasing predation on adjacent resources, and introduction of invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. Siting thousands of acres of photovoltaic panels in the proposed location could impact avian species proximate to desert flyways and stopovers at the Zzyzx Springs, occupied habitat for rare species and important habitat linkage areas, major washes and other fragile desert resources, could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. Moreover, although the DEIS/R recognizes that the proposed construction and operation will produce greenhouse gases, but we could not find an analysis of the green house gas production for alternatives other than the preferred alternative. Of concern is the failure to analyze Alternative F which would require trucking water to the site, which could potentially greatly increase the greenhouse gas production of the project. The DEIS/R also assumes that fossil fuel based energy production will cease somewhere, but fails to identify which fossil-fuel

based project(s) will be shuttered. Regardless, the way to maintain healthy, vibrant ecosystems is not to fragment them, block connectivity corridors, or reduce their biodiversity.

## **B. The DEIS Does Not Adequately Describe Environmental Baseline**

BLM is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. See *Center for Biological Diversity v. U.S. Bureau of Land Management, et al.*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands).

The DEIS/R fails to provide adequate baseline information and description of the environmental setting in many areas including in particular the status of rare plants, animals, and natural communities including bighorn sheep, golden eagles, migratory birds, rare plants, and others, or sufficient baseline information on water resources and hydrology.

The baseline descriptions in the DEIS/R are inadequate particularly because the existing condition of this remote desert valley is a fully functioning ecosystem with very little disturbance that is headwaters of a watershed that drains into the Mojave National Preserve. As discussed below, because of the deficiencies of the baseline data for the proposed project area, the DEIS/R fails to adequately describe the environmental baseline. Many of the rare and common species and habitats have incomplete and/or vague on-site descriptions that make determining the proposed project’s impacts difficult at best. Some of the rare species/habitats baseline conditions are totally absent, therefore no impact assessment is provided either. The DEIS/R fails to include many species of concern that have been documented adjacent to the project site and are mobile enough to use the project site. A supplemental or revised document is required to fully identify the baseline conditions of the site, and that baseline needs to be used to evaluate the impacts of the proposed project.

## **C. Failure to Identify and Analyze Direct and Indirect Impacts to Biological Resources**

The DEIS/R fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The Ninth Circuit has made clear that NEPA requires agencies to take a “hard look” at the effects of proposed actions; a cursory review of environmental impacts will not stand. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150-52, 1154 (9<sup>th</sup> Cir. 1998). Where the BLM has incomplete or insufficient information,

NEPA requires the agency to do the necessary work to obtain it where possible. 40 C.F.R. §1502.22; *see National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733 (9th Cir. 2001) (“lack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.”)

Moreover, BLM must look at reasonable mitigation measures to avoid impacts in the DEIS/R but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, BLM is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the BLM provide some information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI*, 588 F.3d 718 , 727 (9th Cir. 2009).

The lack of adequate surveys is particularly problematic. Failure to conduct sufficient surveys prior to consideration of the project application also effectively eliminates the most important function of surveys - using the information from the surveys to properly site projects, minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place. In addition, without understanding the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation and impossible to comply with NEPA or FLPMA.

These types of industrial-scale projects when sited in undisturbed ecologically-functioning landscapes are essentially large-scale experiments<sup>1</sup>. If such projects move forward (which we oppose in this case), much can and should be learned from them through monitoring and adaptive management. The DEIS/R fails to adequately identify all of the on-site resources, evaluate the impacts to those resources and/or propose adequate mitigation or assure adequate monitoring for adaptive management to occur. While the project proponent had ample time to perform comprehensive surveys, for many species only a single surveys window was completed. For example, avian point counts were only done in the spring and fall of 2009 (DEIS/R Vol 2. at PDF page 17). Based on increasing concerns about solar project impacts on migratory birds, this single year effort is inadequate.

Even if mitigation had been properly addressed and assessed, which it has not been, the generalized strategy of “nesting” mitigation for a multitude of species – migratory/ special status species birds, bats, badger, kit fox, and rare plants in the mitigation for desert tortoise habitat will only partially work if the mitigation lands actually support the species. Even when “mitigation” habitat is already inhabited by the same species for which mitigation is sought, this mitigation strategy ensures a *net decrease* in habitat for impacted species. To actually provide mitigation that staunches species’ habitat losses, the ratio must be much greater than 1:1<sup>2</sup> A *minimum* 3:1 mitigation should be required for the disturbance based on the number of sensitive species that currently use project site, including the threatened desert tortoise, to assure that the project

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<sup>1</sup> Lovich & Ennen 2011

<sup>2</sup> Moilen et al. 2008, Norton 2008

impacts are mitigated appropriately and that the net losses of habitat for rare species are prevented. However, it is important to note that even at 3:1 or higher, the connectivity for certain species including desert bighorn sheep may not be truly mitigated by securing protected habitat elsewhere—it is the location of this habitat that is critical to provide connectivity and this has not been adequately addressed. Adequate mitigation for impacts is essential to conserve listed species and also to prevent future listings under Endangered Species Acts – both state and federal.

### *1. Desert Tortoise*

The desert tortoise has lived in the western deserts for tens of thousands of years. In the 1970's their populations were noted to decline. Subsequently, the species was listed as threatened by the State of California in 1989 and by the U.S. Fish and Wildlife Service in 1990, which then issued a Recovery Plan for the tortoise in 1994. The U.S. Fish and Wildlife Service is updated the Recovery Plan in 2011. Current data indicate a continued decline across the range of the listed species<sup>3</sup> despite its protected status and recovery actions.

In past surveys of the project site for desert tortoise, little recent desert tortoise sign was found on the proposed project site, and desert tortoise were likely to inhabit the site at very low densities. However, the proposed project is now not in compliance with USFWS' guidance on desert tortoise survey methodology, which states "USFWS considers the results of a pre-project survey to be valid for no more than one year."<sup>4</sup> The most recent surveys were done in fall of 2012, while the other survey was done in spring of 2009 (DEIS/R Vol 2. at PDF page 17). The project site is located in the West Mojave Recovery Unit of the desert tortoise – a recovery unit that generally is in steep decline. Since range-wide monitoring was established in 2001, this recovery unit has steadily declined. From the baseline established between 2001-2005, the desert tortoise population had declined by 23% in the Western Mojave by 2007<sup>5</sup> with densities estimated at 4.7 tortoises/km<sup>2</sup>. The draft analysis from the 2012 Rangewide Monitoring calculates only 3.6 tortoises/km<sup>2</sup> in Western Mojave Recovery unit<sup>6</sup> – an approximate 25% decrease in the five years since 2007. These significant declines are occurring almost twenty years *after* the species was placed under Endangered Species Act protection.

Despite these declines, the proposed project is being sited in occupied desert tortoise habitat. No alternative sites are even considered in the DEIS/R that would avoid these impacts although avoidance is practicable and should have been considered. The failure to consider alternative project locations is particularly egregious in this case, because even with later compensatory mitigation, this habitat will be lost forever.

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<sup>3</sup> USFWS 2012

<sup>4</sup> USFWS 2009a

<sup>5</sup> USFWS 2009b

<sup>6</sup> USFWS 2012

The DEIS/R proposal is to move all on-site desert tortoise through relocation or translocation. The desert tortoise translocations document<sup>7</sup> an unacceptable 44% confirmed mortality of translocated desert tortoise on a project where the translocation occurred 2008 and the last surveys in 2009. Thirty-five additional tortoises (22%) were “missing” – status unknown. Coupled with that, all translocated tortoise had tested negative for deadly diseases prior to being translocated, but post-translocation, 11% tested positive, setting up a tragic epidemiological situation. While translocation efforts allow for survival of some desert tortoise, in the case of the proposed project, moving the tortoise out of immediate harms way by moving them nearby (and even perhaps within part of their historic “home range”), will likely still result in long-term demise of the animals because of the industrialization of the proposed project site. Therefore, to actually determine the outcome of the translocation over time, a mitigation measure needs to be added as part of the requirement for the Desert Tortoise Translocation Plan:

- Monitoring of all of the translocated tortoises or desert tortoise moved as part of this project will continue annually throughout the life of the Soda Mountains Solar Project.

This request follows the guidance provided by the Independent Science Advisors convened for the Desert Renewable Energy Conservation Plan (DRECP), who produced Recommendations for the DRECP in 2010. In that document they state “Transplantation or translocations should be considered a last recourse for unavoidable impacts, should never be considered full mitigation for the impact, and in all cases must be treated as experiments *subject to long-term monitoring and management*.”<sup>8</sup>

The translocation site should be conserved in perpetuity, so that moving animals out of harm’s way for one project precludes the eventuality of having to move them for a second time when another project is proposed in the area. This is especially important for this proposed project which is located in a transmission corridor and which may have future development in it. We recommend that the proposed project area be evaluated as an Area of Critical Environmental Concern because of the biological resources and connectivity that is provides between conserved lands to the west and the Mojave National Preserve to the east. Indeed, the situation of moving desert tortoise repeatedly is occurring as desert tortoise that were moved off-site of the Ivanpah Solar Electric Generating System site, may now be moved a second time if the Stateline Solar project is moves as currently permitted<sup>9</sup>. The more times an animal is moved out of its existing home range, the less likely it is to survive. Therefore, the translocation areas, or areas where relocated or translocated plant/animals reside should be put off limits to all future development. An additional mitigation measure should be incorporated as part of the requirement for the Desert Tortoise Translocation Plan:

- Areas where relocated or translocated desert tortoise reside will be conserved in perpetuity to provide a safe refugia for tortoise moved from the project site and

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<sup>7</sup> Gowan and Berry 2010.

<sup>8</sup> ISA 2010 at vii

<sup>9</sup> Attachment 1. Figure 8 Tortoise Records ISEGS Monitoring Project and Perimeter Recipient Sites.

preclude the need for the desert tortoises to be moved more than once via the establishment of an Area of Critical Environmental Concern.

NEPA mandates consideration of the relevant environmental factors and environmental review of “[b]oth *short- and long-term* effects” in order to determine the significance of the project’s impacts. 40 C.F.R. § 1508.27(a) (emphasis added). BLM has clearly failed to do so in this instance with respect to the impact to the desert tortoise.

Despite the cumulative impacts analysis for desert tortoise, without changes to the proposed project and full consideration of alternatives first, and then the development of a mitigation strategy as listed above and a higher mitigation ratio overall, the proposed mitigation does not even approach a guarantee of adequate compensation for the impacts to onsite desert tortoises or their habitat.

While Mitigation Measure 3.4-2b requires a Desert Tortoise Relocation/Translocation Plan (DEIS/R at PDG page 39), no desert tortoise relocation/translocation plan was included in the DEIS/R. The translocation plan should be included for public review as part of revised DEIS/R in order for the public and decision makers to be able to evaluate the effectiveness of the proposed strategies.

## 2. *Desert Bighorn Sheep*

The DEIS/R recognizes that the project site is occupied habitat for desert bighorn sheep (DEIS/R at PDF page 230). However it fails to adequately evaluate the impacts to the species from loss of habitat/foraging area and crucial connectivity. Despite the fact that the DEIS/R cites the Epps et al. (2013) paper entitled *Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity* it fails to include the scientists’ conclusion which clearly states that “the intensity of development within such solar arrays would likely prevent movement of bighorn sheep through project areas” (at pg.1). Epps et al. also states that connectivity needs to be restored either by 1) improving the existing underpasses under Interstate 15 and enticing the bighorn to use them or 2) constructing an overpass for them. Additionally the paper states “the North-South Soda Mountain connection is *the most important restorable corridor* for long-term demographic potential (i.e., population recolonization by ewes) across the entire southeastern Mojave Desert of California, as it would provide *the best and only opportunity* for movement between bighorn populations in the Mojave National Preserve and the large complex of populations to the north of Interstate 15, and would facilitate gene flow as well resulting in long-term (multi-step) connections with bighorn sheep populations in Death Valley National Park” (at pg. 1 – emphasis added). The DEIS/R does not accurately reflect this information and must be revised.

The DEIS/R also fails to analyze the implication of the proposed project that could doom the entire southeastern desert bighorn populations to increased isolation, especially the herds in the Mojave National Preserve, in addition to increased habitat loss. The DEIS/R also fails to evaluate this key issue as part of a climate change adaptation strategy for the bighorn.



The desert bighorn herds in the Mojave National Preserve have recently sustained tragic population losses from pneumonia sweeping through them, introduced by domestic stock.<sup>10</sup> Over 100 desert bighorn have died between May and November 2013 alone.<sup>11</sup> While isolation of the Mojave National Preserve herds may have kept the disease from spreading desert wide, the re-establishment of those herds would be greatly benefitted by greater connectivity with herds outside off the Preserve, and maintenance of a robust genetics that on-the-ground connectivity would facilitate will benefit these herds desert-wide.

We agree with the DEIS/R's determination that significant and unavoidable impacts to desert bighorn will occur if the proposed project area is developed (DEIS/R at PDF page 46). This result should be avoided, and the project proposal denied.

The proposed mitigation measures are ineffective and may create additional impacts that have not been fully considered. Mitigation Measure 3.4-3 in the DEIS/R proposes to provide "three and five (total) pre-fabricated bighorn sheep water guzzlers in the north Soda Mountains/Avawatz Mountains corridor and provide funding to refill them through the life of the project". We fail to see how this mitigates or minimizes impacts. And the DEIS/R failed to evaluate the potential adverse effects of these guzzlers on the bighorn population through increasing herd size inappropriately. The proposed project will decrease available habitat, and key low elevation forage areas and assure isolation of the population. Increasing herd size through additional artificial waters while reducing habitat and connectivity through project development will not serve the desert bighorn well. While we do not necessarily oppose providing artificial water to desert species in light climate change impacts, we are also concerned about the proposed location of any guzzlers based on the fact that both the Soda Mountains and Avawatz Mountains are Wilderness Study Areas (WSAs). If indeed guzzlers are contemplated, they should be placed outside the boundaries of the WSAs to preclude degradation of them and a full NEPA review is required to determine whether such guzzlers are needed and alternatives for siting considered; the DEIS/R fails to provide that information and therefore is inadequate on this basis as well.

### *3. Mojave fringe-toed lizard/Sand dunes/Sand Transport System*

Surveys indication that Mojave fringe-toed lizards were observed approximately 1,000 feet from the southwest corner of the South Array and also found in the southern Rasor Road realignment corridor (DEIS/R Vol 2, Appendix E at PDF page 52). The DEIS/R is unclear if the proposed project will affect this species either through direct impact or indirect impact of interference with sand transport corridor(s). A supplemental EIR needs to include these data and analyses.

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<sup>10</sup> <http://www.nps.gov/moja/naturescience/desert-bighorn-sheep.htm>

<sup>11</sup> <http://www.kcet.org/news/redefine/rewild/mammals/park-service-to-track-ailing-mojave-preserve-bighorn.html>

Notably other public lands projects are required to mitigate for indirect impacts to occupied Mojave fringe-toed lizard habitat. For example, Desert Sunlight was required to mitigate any unavoidable impacts to the Mojave fringe-toed lizard habitat up to 0.5:1 for indirect impacts to all occupied Mojave fringe-toed lizard habitat (Desert Sunlight FEIS at 4.4-40). Also, the Desert Harvest project (Desert Harvest FEIS at Wil-4) is required to produce a Mojave Fringe-toed Lizard Protection Plan. This DEIS/R provide no consistency with BLM treatment of impacts to Mojave fringe-toed lizards on other projects. If in fact the project will in fact eventually eliminate the sand habitat for the Mojave fringe-toed lizard downwind of the proposed project site, downwind impacts should be considered a direct yet off-site impact. The DEIS/R fails to evaluate this important aspect. At minimum, if the missing analysis identifies permanent impacts may occur, they should be mitigated at the 3:1 level.

A more robust cumulative impacts analysis is also needed for the Mojave fringe-toed lizard that takes into account other recent impacts across the CDCA—including the unexpected high mortality of Mojave fringe-toed lizards found at the Colorado River substation<sup>12</sup>-- and both approved and proposed projects within its habitat throughout the CDCA.

### *5. Migratory and Other Avian Species*

#### *Overarching Issues Regarding Avian Species*

Mounting evidence suggests that large-scale solar projects of all kinds, due to their possible appearance as lakes to birds, may be attracting birds in general and water birds in particular to the project sites, where mortalities occur when the birds run into panels/mirrors or water birds land and can not take off again due to lack of requisite water; or with power towers birds are burned or singed when crossing the flux field. The DEIS/R fails to consider alternatives to avoid or minimizing impacts to bird species that may result from putting thousands of acres of photovoltaic panels into the arid Mojave desert. Without a robust alternatives analysis and consideration of mitigation for this impact the DEIS/R is woefully inadequate.

Our experience from other projects indicates that the pre-construction avian point counts have no correlation to the actual species that die on the project sites. As mentioned above, very few water birds are documented in the preconstruction surveys at these sites – understandably so, since no open water is present on the site. That appears to be the case with the preconstruction avian point counts for this project (DEIS/R Vol 2, Appendix E at PDF page 97-111), where indeed no “waterbirds” were documented. However, data sources from nearby locations indicate a number of birds use the general area. For example Afton Canyon, located south of the proposed project site has documented 78 species of birds<sup>13</sup>, including a number of “waterbirds”, and Zzyzx Springs, located just north of the proposed project site has documented 224 species<sup>14</sup> including numerous “waterbirds” and potentially other federally and state listed species that the DEIS/R

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<sup>12</sup> Helix 2013 Summary of MFTL monitoring during DPV2 construction

<sup>13</sup> <http://ebird.org/ebird/ca/hotspot/L444756>

<sup>14</sup> <http://ebird.org/ebird/ca/hotspot/L350673>

does not analyzed – for example, the southwestern willow flycatcher (see below species specific discussion). The DEIS/R needs to recognize ongoing avian mortality at the existing large-scale solar projects and broaden the scope of the avian surveys to species that migrate or transit the site that could be attracted to the project and impacted. While this is a relatively “new”-type of impact analysis, the amount of avian mortality for photovoltaic projects has been estimated for other projects<sup>15</sup> and should be a part of the NEPA analysis.

### *Yuma Clapper Rail*

The Yuma clapper rail is a federally endangered species and a fully protected species under State law. The DEIS/R recognizes that the Yuma clapper rail (*Rallus longirostris yumanensis*) mortality has occurred at the Desert Sunlight photovoltaic project (at 4.21-11).

The proposed project may pose a serious threat to the Yuma clapper rail, which is a secretive critically endangered bird. Recent data on populations near the project site indicate that between 1995 and 2005, survey data have ranged from 217-445 birds along the Lower Colorado River and the Salton Sea data has ranged from 234-523 birds<sup>16</sup>, population numbers well below the Recovery Plan<sup>17</sup> objectives for this unique bird. While little is known about their migration or dispersal patterns, the recent Yuma clapper rail mortality at Desert Sunlight indicates that the birds use the desert areas for dispersal and indeed may be attracted to solar facilities through mistaking the solar facility as water – the “lake effect”. In the case of the proposed project, the project infrastructure will pose a hazard to the rail.

### *Willow Flycatcher*

The DEIS/R overlooks the presence of the willow flycatcher (*Empidonax trallii*) near the project site. The southwestern willow flycatcher is a federally and state endangered species. While the willow flycatcher has not been reported on the proposed project site, an willow flycatcher unidentified to species has been recorded very close to the site at Zzyzx Springs . According to eBird hotspot list, which is reviewed by local experts prior to posting, a willow flycatcher (*Empidonax* sp.) was documented using the resources at Zzyzx on September 22, 2012<sup>18</sup> and Afton Canyon also on April 14, 2012<sup>19</sup>. It is unclear if these birds are the federally protected southwestern willow flycatcher. However, southwestern willow flycatchers are known to migrate through the desert<sup>20</sup>, and it is possible that the willow flycatcher at Zzyzx Springs was a southwestern. Regardless all willow flycatchers are state listed as endangered and protected under the MBTA as well. The BLM should consult with US Fish and Wildlife Service on impacts associated with the proposed project to the endangered southwestern willow flycatcher.

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<sup>15</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152\\_20131108T155000\\_Testimony\\_of\\_K\\_Shawn\\_Smallwood\\_PhD.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152_20131108T155000_Testimony_of_K_Shawn_Smallwood_PhD.pdf)

<sup>16</sup> USFWS 2006

<sup>17</sup> USFWS 1983

<sup>18</sup> eBird – Zzyzx Springs Hot Spot <http://ebird.org/ebird/ca/hotspot/L350673>

<sup>19</sup> eBird – Afton Canyon Hot Spot <http://ebird.org/ebird/ca/hotspot/L444756>

<sup>20</sup> USFWS 2013

### *Golden Eagle*

While the DEIS/R recognizes that the whole project site is eagle foraging habitat, the DEIS/R fails to adequately evaluate the impacts to golden eagle in the project area and from the proposed project especially in the context of other permitted and constructed developments and future development. In general golden eagle populations in the western United States are declining slightly in the southern parts of its range.<sup>21</sup> The net loss of foraging habitat could cause this territory to be abandoned.

Actively nesting golden eagles were documented within eight miles of the proposed project site—thus the project threatens nesting and breeding as well as foraging and may impact the species at a population level., based on the threats— of habitat impact, as well as the unanalyzed impacts to nesting and breeding, the BLM should require, at minimum, that a permit be obtained under the Bald and Golden Eagle Act for impacts to golden eagles from the proposed project before any BLM approvals.

### *Swainson's Hawk*

While the DEIS/R does not discuss Swainson's hawk, this species, which is state listed as endangered is documented as occurring at Zzyzx Springs on April 10, 2011<sup>22</sup>. The DEIS/R fails to actually analyze the impacts of the proposed project on Swainson's hawks. While it is very unlikely that Swainson's hawks would utilize the project sites for nesting, impacts to these rare raptors could still occur as they migrate through the proposed project area.

### *Burrowing Owl*

The DEIS/R states that "The entire Project site may be used by burrowing owls for foraging during migration or as resident breeding and foraging habitat" and that in 2012, the project site was estimated to support between 9 and 24 burrowing owls while owl sign was detected at 50 burrows in 2013 (DEIS/R at PDF page 224).

While burrowing owls are declining in California, the remaining stronghold for burrowing owls in California – the Imperial Valley – has documented decline of 27% in the past<sup>23</sup>, resulting in an even more dire state for burrowing owls in California. Because burrowing owls are in decline throughout California, and now their "stronghold" is documented to be declining severely, the burrowing owls on this proposed project site (and on other renewable energy projects) become even more important to species conservation efforts. While the acquisition of habitat specifically for burrowing owls as offsets to impacts is important, it is impossible to evaluate the impact of the proposed project primarily because the actual number of breeding pairs of burrowing owls on the proposed project site is not evident.

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<sup>21</sup> Milsap et al. 2013; Kochert & Steenhoff 2002

<sup>22</sup> eBird – Zzyzx Springs Hot Spot <http://ebird.org/ebird/ca/hotspot/L350673>

<sup>23</sup> Manning 2009.

Because there is no scientific evidence that passively relocating burrowing owls is a successful strategy for long-term survival of burrowing owls, if owls are to be “passively relocated”, the only way to evaluate the effectiveness of that action is monitoring, therefore the BLM needs to require monitoring of passively relocated owls to determine their ultimate fate.

Shockingly, no mitigation acquisition to offset impacts to on-site burrowing owls is required. Mean burrowing owl foraging territories are 242 hectares in size, although foraging territories for owl in heavily cultivated areas is only 35 hectares<sup>24</sup>. The DEIS/R fails to identify the number of territories that occur on the proposed project site. Absent the actual number of territories that overlap with the proposed project site, the evaluation of mitigation acquisition is flawed. However, mitigation acreage needs to be required – calculated using the mean foraging territory size times the number of territories, although using the average foraging territory size for mitigation calculations may not accurately predict the carrying capacity and may *overestimate* the carrying capacity of the lands selected for mitigation. It is unclear if the DEIS/R relied on guidance from CDFW from 2012, and that guidance still does not fully incorporate current population declines<sup>25</sup> and additional research on the species habitat<sup>26</sup>. Lastly, because the carrying capacity is tied to habitat quality, mitigation lands that are acquired for burrowing owl that can not be avoided be native habitat on undisturbed lands, not cultivated lands, which are subject to the whims of land use changes. The long-term persistence of burrowing owls lies in their ability to utilize natural landscapes, not human-created ones.

While the APM 45 states that for each burrow destroyed 5 burrows will be constructed elsewhere (DEIS/R at PDF page 238), it is completely unclear where those burrows will be constructed. Much clearer information needs to be included and as should certain requirements, including 1) the lands they are placed on are conserved in perpetuity 2) the lands they are placed on have the carrying capacity to support burrowing owls at five times the density and 3) follow-up monitoring shows that burrowing owls are actually using the burrows at a pre-established success criteria.

## *6. Special Status Plants*

The general absence of non-native plant species except in disturbed areas is testament to the undisturbed ecosystem in which the proposed project is proposed. Emory’s crucifixion thorn is a Pleistocene relict species distributed very sparsely throughout the warm deserts. While avoidance from construction is a feel good step, the persistence of the population over time is questionable based on the fact that it will be within an industrial site. Additional mitigation in the form of acquisition of existing populations close to the project site would help to assure that this species remains in the California deserts as a rare relict.

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<sup>24</sup> USFWS 2003

<sup>25</sup> Manning 2009

<sup>26</sup> USFWS 2003

We are also concerned about the adequacy of the surveys for rare plants. The DEIS/R recognizes that perennial herbs, for example small-flowered androstephium, did not come up at reference sites and therefore would not be expected to be found on the project site due to inappropriate climatic conditions when surveyed (DEIS/R at PDF page 176). Also any relatively short-term survey windows of 3-4 years in the California deserts can never “definitively rule[d] out for occurrence in the area” (DEIS/R at PDF page 176). Some plants show above ground parts only once per decade. As stated above, failure to conduct sufficient surveys prior to environmental review of the project effectively eliminates the most important function of surveys - using the information from the surveys to avoid and minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place.

### *7. Badger and Desert Kit Foxes*

The desert kit fox and badgers are experiencing unprecedented impacts from development of renewable energy projects in their habitat. For desert kit fox, to date on public lands alone, eighteen solar and transmission project applications covering more over 96,000 acres are currently filed as of January 2013<sup>27</sup>. Fifteen approved solar projects, most of which are currently under construction, cover almost 39,000 acres of desert kit fox habitat<sup>28</sup>. Over 30,000 additional acres of proposed solar projects are actively undergoing environmental review<sup>29</sup>. As of January 2013, eleven wind projects covering almost 75,000 acres have been approved with many of them in the construction phase<sup>30</sup>. Three additional projects covering 16,611 acres are currently under environmental review<sup>31</sup>. In addition, twenty-eight projects are authorized to do wind testing on almost 270,000 acres<sup>32</sup>. Another forty wind project applications are in development or propose testing, covering an additional 485,000 acres<sup>33</sup>. The potential cumulative development for wind in desert kit fox and badger habitat could cover close to 850,000 acres. In our review of these projects, very few of them evaluate the impacts to desert kit fox populations or require any mitigation other than “passive relocation”. The DEIS/R fails to adequately discuss the desert kit fox in the context of their great site fidelity, challenges of “passive relocation” with this species that generally go to great effort to return to their on-site territories.

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<sup>27</sup> BLM 2012. Solar Apps and Auths.

<http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy/solar.Par.84447.File.dat/BLM%20Solar%20Apps%20and%20Auths.pdf>

<sup>28</sup> Ibid

<sup>29</sup> Ibid

<sup>30</sup> BLM Wind Apps & Auths July 2012

<http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.5556.File.dat/BLM%20Solar%20Apps%20&%20Auths%20July%202012.pdf> and Kern County wind projects

[http://www.co.kern.ca.us/planning/pdfs/renewable/wind\\_projects.pdf](http://www.co.kern.ca.us/planning/pdfs/renewable/wind_projects.pdf)

<sup>31</sup> Kern County wind projects [http://www.co.kern.ca.us/planning/pdfs/renewable/wind\\_projects.pdf](http://www.co.kern.ca.us/planning/pdfs/renewable/wind_projects.pdf)

<sup>32</sup> BLM Wind Apps & Auths July 2012

<http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.5556.File.dat/BLM%20Solar%20Apps%20&%20Auths%20July%202012.pdf>

<sup>33</sup> Ibid



The DEIS/R fails to estimate the number of desert kit fox or badgers on the project site, or analyze impacts to them from the proposed project. The DEIS/R points to three inadequate “mitigation measures” which are really just temporary avoidance measures and do not address the long-term survival of desert kit fox or badgers on the proposed project site - Mitigation Measures 3.4-1a (monitoring by a designated biologist); 3.4-1b (biological monitoring during construction); and 3.4-1c (WEAP). Amazingly, it does not require an *American Badger and Desert Kit Fox Mitigation and Monitoring Plan*, which are required for all other solar projects in the CDCA and provide additional safeguards to be put in place for the kit fox and badger. As part of that plan, a “monitoring and reporting plan to evaluate success of the relocation efforts and any subsequent re-occupation of the project site” is required, and long-term monitoring for the life of the project of the “passively relocated” animals needs to be included.

Among other concerns about passive relocation, we share all of the State veterinarians’ concerns about passive relocation as stated in the CEC proceeding<sup>34</sup>:

- “canine distemper virus (CDV) can cause repeated (cyclical) outbreaks. The time when this is most likely to happen is when susceptible young of the year are growing up and dispersing because density is high and animals are moving, therefore there is more opportunity to transmit the virus and more naïve animals present on the landscape to be infected. This time of year also corresponds to the time when projects are permitted to passively relocate foxes whose dens are within the project construction area
- Passive relocation or hazing activities conducted in an area experiencing or adjacent to distemper cases may enhance disease transmission and spread by multiple mechanisms.
  - First, animals stressed by disturbance or relocation may be more susceptible to illness and death because CDV infection decreases immune function (ref).
  - Second, passive relocation activities in an area experiencing clinical CDV cases may result in increased movement of animals shedding virus, thereby increasing the number of new cases or enhancing the spread of disease into new areas.
- Little to nothing is known about the potential impacts of passive relocation on foxes from solar sites nor have alternative techniques been explored to determine best practices. Important unanswered questions include:
  - Do passively relocated animals re-establish territories adjacent to the solar site? Or might this depend on the density or spatial distribution of foxes around a site.
  - Do relocated foxes experience lower survival or different causes of mortality that might need to be addressed through mitigation efforts?
  - Recursion rate – how likely are relocated foxes going to try to get back on site and return to former den areas?
  - Demographic shifts of neighbors

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<sup>34</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200995\\_20131022T141658\\_Exhibit\\_2005\\_CDFW\\_Outline\\_for\\_Proposed\\_Desert\\_Kit\\_Fox\\_Health\\_M.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200995_20131022T141658_Exhibit_2005_CDFW_Outline_for_Proposed_Desert_Kit_Fox_Health_M.pdf)

- Reproductive impact (n=1 relocated pair this year had den failure; most other dens were successful this year in producing pups).
- Rapid vs. slow relocation etc.
- Utilization of artificial dens
- Longer term translocation decisions
- Current monitoring limited in scope and inadequate to address needs (underfunded).
- Methods and outcomes for relocation are not evaluated systematically or reported.”

These issues should also be incorporated into requirements for the proposed project, especially because this proposed project is the closest project to the Genesis solar project, which was the site of the unprecedented first outbreak of canine distemper ever documented in desert kit fox.<sup>35</sup>

#### 8. *Cryptobiotic soil crusts and Desert Pavement*

The proposed project is located in the Mojave Desert Air Quality Management District area, which is already in non-attainment for PM-10 particulate matter<sup>36</sup>. The construction of the proposed project further increases emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts. Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the “glue” that holds surface soil particles together precluding erosion, provide “safe sites” for seed germination, trap and slowly release soil moisture, and provide CO<sub>2</sub> uptake through photosynthesis<sup>37</sup>. Desert pavements formed over eons and also help to hold small soil particles in place.

The DEIS/R does not describe or quantify the on-site cryptobiotic soil crusts although it does mention them as biological soil crusts and provides a partial list of the ecological services that they perform in relation to special status plant species (DEIS/R at PDF page 193). The proposed project will disturb an unidentified portion of these soil crusts and pavements and cause them to lose their capacity to stabilize soils and trap soil moisture. The DEIS/R fails to provide a map of the soil crusts and desert pavement over the project site, and to present any avoidance or minimization measures. It is unclear how many acres of cryptobiotics soils/desert pavements will be affected by the project. The DEIS/R must identify the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem components as a result of this project.

While Mitigation Measure 3.7-4: Protection of Desert Pavement. Requires minimizing ground disturbance in areas covered by desert pavement if possible. “If avoidance of these areas is not possible, the desert pavement surface shall be protected from damage or disturbance from construction vehicles by use of temporary mats on the surface.” Has this been shown to be effective?

<sup>35</sup> <http://articles.latimes.com/2012/apr/18/local/la-me-0418-foxes-distemper-20120418>

<sup>36</sup> <http://www.mdaqmd.ca.gov/index.aspx?page=214>

<sup>37</sup> Belnap 2003, Belnap et al 2003, Belnap 2006, Belnap et al. 2007

## *9. Decommissioning and Reclamation Plan*

Desert lands are notoriously hard to revegetate or rehabilitate<sup>38</sup> and revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance<sup>39</sup>. The task of revegetating almost eleven square miles will be a Herculean effort that will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will be met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria.

The project will cause permanent impacts to the on-site plant communities and habitat for wildlife despite “revegetation”, because the agency’s regulations based on the West Mojave Plan’s rehabilitation strategies<sup>40</sup> only requires 40% of the original density of the “dominant” perennials, only 30% of the original cover. Dominant perennials are further defined as “any combination of perennial plants that originally accounted cumulatively for at least 80 percent of relative density”.<sup>41</sup> These requirements fail to truly “revegetate” the plant communities to their former diversity and cover even over the long term. BLM’s own regulations 43 CFR 3809.550 et seq. require a detailed reclamation plan and a cost estimate, they need to be included in the revised DEIS/R. A comprehensive decommissioning plan must be developed for the whole project site. This plan must be included in the revised or supplement DEIS/R in order to evaluate the effectiveness as mitigation.

## *10. Fire Plan*

Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes<sup>42</sup> and impacts to the local species<sup>43</sup>. The DEIS/R fails to adequately address, much less analyze the impact that an escaped on-site-started fire could have on the natural lands adjacent to the project site if it escaped from the site – especially to the resources of the Mojave National Preserve. The DEIS/R also fails to address the mitigation of this potential impact. Instead it defers to construction-related fire and safety measures. A fire prevention and protection plan needs to be developed and required to prevent the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site.

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<sup>38</sup> Lovich and Bainbridge 1999

<sup>39</sup> Longcore et al. 1997

<sup>40</sup> <http://www.blm.gov/ca/st/en/fo/cdd/wemo.html>

<sup>41</sup> Ibid

<sup>42</sup> Brown and Minnich 1986, Lovich and Bainbridge 1999, Brooks 2000, Brooks and Draper 2006, Brooks and Minnich 2007

<sup>43</sup> Dutcher 2009

## 11. Failure to Identify Appropriate Mitigation

As discussed above, because the DEIS/R fails to provide adequate identification and analysis of impacts, inevitably, it also fails to identify adequate mitigation measures for the project's environmental impacts. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52. Because the DEIS does not adequately assess the project's direct, indirect, and cumulative impacts, its analysis of mitigation measures for those impacts is necessarily flawed. The DEIS must discuss mitigation in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Methow Valley*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices"). As the Supreme Court clarified in *Robertson*, 490 U.S. at 352, the "requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations" and the "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA."

Although NEPA does not require that the harms identified actually be mitigated, NEPA does require that an EIS discuss mitigation measures, with "sufficient detail to ensure that environmental consequences have been fairly evaluated" and the purpose of the mitigation discussion is to evaluate whether anticipated environmental impacts *can be avoided*. *Methow Valley*, 490 U.S. at 351-52. As the Ninth Circuit recently noted: "[a] mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination." *South Fork Band Council of Western Shoshone v. DOI*, 588 F.3d 718, 727 (9th Cir. 2009) (emphasis in original).

Here, the DEIS does not provide a full analysis of possible alternatives and mitigation measures to avoid or lessen the impacts of the proposed project and therefore the BLM cannot properly assess the likelihood that such measures would actually avoid the impacts of the proposed project.

### D. Key Plans Not Included

The DEIS/R relies upon plans identified in the DEIS for adequate mitigation but which are unavailable and include:

- Revegetation Plan for temporarily disturbed area (DEIS/R at PDF page 31)
- Worker Environmental Awareness Program (WEAP) (DEIS/R at PDF page 33)
- Comprehensive Drainage, Erosion, and Sedimentation Control Plan (DEIS/R at PDF page 33)
- Vegetation Resources Management Plan (DEIS/R at PDF page 33)

- Desert Tortoise Translocation Plan (DEIS/R at PDF page 38)
- Burrowing Owl Mitigation and Monitoring Plan (DEIS/R at PDF page 43)
- Lighting Plan (DEIS/R at PDF page 46)
- Soil erosion control plan (DEIS/R at PDF page 48)
- plan for identification and avoidance or protection of sensitive desert pavement (DEIS/R at PDF page 49)
- Comprehensive Drainage, Stormwater, and Sedimentation Control Plan (DEIS/R at PDF page 52)
- Groundwater monitoring and Plan ((DEIS/R at PDF page 53 & 59

Plans that should be required in the DEIS/R but not:

- American Badger and Desert Kit Fox Mitigation and Monitoring Plan
- Operations Dust Control Plan
- Avian Protection Plan
- Desert Tortoise Management Plan for Compensatory Mitigation Lands
- Special-status Plant Impact Avoidance and Mitigation Plan
- Ground Water Dependent Vegetation Monitoring Plan
- Bat Protection Plan
- Wildland Fire Plan

All of these plans are key components to evaluating the effectiveness of the avoidance, minimization and mitigation to biological resources by the proposed project. Their absence makes it impossible to evaluate the impacts from the proposed project. Each of these plans needs to be included in a revised DEIS/R.

#### **E. Impacts to Water Resources— Surface and Groundwater Water Impacts and Impacts to Aquatic Species**

The DEIS/R states that 192 AFY would be needed during construction (DEIS/R at PDF page 86) and 33 afy during operations and maintenance (DEIS/R at PDF page 86) The amount of water use by the project will be significant in this arid area and the DEIS/R does not contain sufficient information to show that surface resources on other public lands will not be affected by the drawdown of the water table over the life of the project, especially Zzyzx Spring and other locations in the Mojave National Preserve.

The Center is particularly concerned about the impact to Zzyzx and Lake Tuenidae regarding the critically endangered Mojave Tui Chub. This area is the stronghold for this endemic species and any decrease in water from this proposed project may indeed affect the water resources and in-turn the chub. The BLM must consult with FWS regarding potential impacts to this species. Alternatives should be considered to avoid impacts to water resources and this species.

The water monitoring plan should include monitoring not only of water levels in Zzyzx Springs, but also water quality.

**Reserved Water Rights:** As BLM is well aware, the California Desert Protection Act (“CDPA”) expressly reserved water rights for wilderness areas that were created under the act including the Hollow Hills wilderness and the Mojave wilderness areas in the Preserve and others. 16 U.S.C. §410aaa-76.<sup>44</sup> The CDPA reserved sufficient water to fulfill the purposes of the Act which include to “preserve unrivaled scenic, geologic, and wildlife values associated with these unique natural landscapes,” “perpetuate in their natural state significant and diverse ecosystems of the California desert,” and “retain and enhance opportunities for scientific research in undisturbed ecosystems.” 103 P.L. 433, Sec. 2. The priority date of such reserved water rights is 1994 when the CDPA was enacted. Therefore, at minimum, the BLM must ensure that use of water for the proposed project (and cumulative projects) *over the life of the proposed projects* will not impair those values in the wilderness that depend on water resources (including perennial, seasonal, and ephemeral creeks, springs and seeps as well as any riparian dependent plants and wildlife).

Although no *express* reservation of rights has been made for many of the other public lands in the CDCA, the DEIS should have addressed the federal reserved water rights afforded to the public to protect surface water sources on all public lands affected by the proposed project. Pursuant to Public Water Reserve 107 (“PWR 107”), established by Executive Order in 1926, government agencies cannot authorize activities that will impair the public use of federal reserved water rights.

PWR 107 creates a federal reserved water right in water flows that must be maintained to protect public water uses. *U.S. v. Idaho*, 959 P.2d 449,453 (Idaho, 1998) *cert. denied*; *Idaho v. U.S.* 526 U.S. 1012 (1999); *Cappaert v. U.S.*, 426 U.S. 128, 145 (1976). PWR 107 applies to reserve water that supports riparian areas, reserve water that provides flow to adjacent creeks and isolated springs that are “nontributary” or which form the headwaters of streams. *U.S. v. City & County of Denver*, 656 P.2d 1, 32 (Colo., 1982). Accordingly, BLM cannot authorize activities that will impair the public use of reserved waters covered by PWR 107.

BLM must examine the federal reserved water rights within the area affected by the proposed project that will use significant amounts of scarce groundwater. This examination must include a survey of the any water sources potentially affected by the proposed project on BLM lands or within the Preserve. The BLM must ensure that any springs, seeps, creeks or other water sources on public land or in the Preserve (and particularly within the wilderness areas) are not degraded by the proposed projects’ use of water and continue meet the needs of the existing wildlife and native vegetation that depend on those water resources.

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<sup>44</sup> The reservation excluded two wilderness areas further south than this project area with regard to Colorado River water. See 103 P.L. 433; 108 Stat. 4471; 1994 Enacted S. 21; 103 Enacted S. 21, SEC. 204. COLORADO RIVER. (“With respect to the Havasu and Imperial wilderness areas designated by subsection 201(a) of this title, no rights to water of the Colorado River are reserved, either expressly, impliedly, or otherwise.”)



PWR 107 also protects the public lands on which protected water sources exist. Accordingly, BLM should not only consider the impact of projects on water sources present on public lands, but also the direct and indirect impacts of the proposed project on the surrounding lands as well as impacts to the ecosystem as a whole.

The Center is also concerned that the discussion in the DEIS/R is incomplete because it fails to address any potential water rights that could arguably be created from use of groundwater by the proposed project on these public lands. At minimum, if the proposed project is approved (which we do not support) the BLM must address the question of water rights and ensure that any water rights that could *arguably* be created will be conveyed back to the BLM owner and run with the land at the end of the proposed project ROW term. The BLM must provide a mechanism to insure that in no case will the use of water for the proposed project on these public lands result in water rights accruing to the project applicant that it could arguably convey to any third party. Therefore, any water rights *arguably* created by groundwater pumping on these public lands for the proposed project must not ultimately accrue to any third party for use *off-site* or *on-site* in the future for any other project. Moreover, BLM should ensure that the applicant will not use the groundwater associated with the project off-site for any purpose.

The DEIS/R must include a more comprehensive analysis of the availability of the water required for the project, of the direct, indirect and cumulative impacts to groundwater and surface water resources, analysis of alternatives to avoid such impacts (for example alternative sites and distributed PV alternatives), and mitigation measures.

#### **F. The DEIS/R Fails to Adequately Identify, Analyze and Off-set Impacts to Air Quality.**

The DEIS/R fails to adequately address air quality issues including PM10 both during construction and operation which is of particular concern in this area which is a nonattainment area for PM10 and ozone. It is clear that on-site activities will result in bare soils and increased PM10 may be introduced into the air by wind and that the use of the area during construction and operations will lead to additional PM10 emissions from the site. Although some mitigation measures are suggested they are not specific and enforceable and because the extent of the impact has not been adequately addressed as an initial matter there is no way to show that the mitigation measures proffered will reduce the impacts to less than significance. As a result, a consistency determination cannot be made for this project.

BLM fails to consider any alternatives to the project that would minimize such emissions (such as a distributed PV alternative) or to require that these near-term emissions be off set in any way.

#### **G. The Analysis of Cumulative Impacts in the DEIS Is Inadequate**

A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable

future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. The Ninth Circuit requires federal agencies to “catalogue” and provide useful analysis of past, present, and future projects. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9<sup>th</sup> Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809-810 (9<sup>th</sup> Cir. 1999).

“In determining whether a proposed action will significantly impact the human environment, the agency must consider ‘[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.’ 40 C.F.R. § 1508.27(b)(7).” *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-823 (9<sup>th</sup> Cir. 2006). NEPA requires that cumulative impacts analysis provide “some quantified or detailed information,” because “[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide.” *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9<sup>th</sup> Cir. 1998); *see also id.* (“very general” cumulative impacts information was not hard look required by NEPA). The discussion of future foreseeable actions requires more than a list of the number of acres affected, which is a necessary but not sufficient component of a NEPA analysis; the agency must also consider the actual environmental effects that can be expected from the projects on those acres. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9<sup>th</sup> Cir. 2004) (finding that the environmental review documents “do not sufficiently identify or discuss the incremental impact that can be expected from each [project], or how those individual impacts might combine or synergistically interact with each other to affect the [] environment. As a result, they do not satisfy the requirements of the NEPA.”) Finally, cumulative analysis must be done as early in the environmental review process as possible, it is not appropriate to “defer consideration of cumulative impacts to a future date. ‘NEPA requires consideration of the potential impacts of an action *before* the action takes place.’” *Neighbors*, 137 F.3d at 1380 *quoting City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9<sup>th</sup> Cir. 1990) (emphasis in original).

The DEIS/R identifies many of the cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the California desert from the many proposed projects (including renewable energy projects and others). Moreover, because the initial identification and analysis of impacts is incomplete, the cumulative impacts analysis cannot be complete. For example, the identification of the special status birds (see above) likely to be impacted by the proposed project are not included in the DEIS/R cumulative analysis either, the cumulative impacts are therefore incomplete and are also inadequate.

The DEIS/R also fails to consider all reasonably foreseeable impacts in the context of the cumulative impacts analysis. *See Native Ecosystems Council v. Dombek, et al*, 304 F.3d 886 (9<sup>th</sup> Cir. 2002) (finding future timber sales and related forest road restriction amendments were “reasonably foreseeable cumulative impacts”). The DEIS/R also fails to provide the needed analysis of how the impacts might combine or synergistically interact to affect the environment in this valley or region, for example through loss of movement corridors for wildlife and

fragmentation of habitat. See *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004).

The NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed. “Indirect effects,” include those that “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include *growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.*” 40 C.F.R. s.1508.8(b) (emphasis added). See *TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003) (finding NEPA review lacking where the agency failed to address secondary growth as it pertained to impacts to groundwater, prime farmland, floodplains and stormwater run-off, wetlands and wildlife and vegetation); *Friends of the Earth v. United States Army Corps of Eng’rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000) (finding NEPA required analysis of inevitable secondary development that would result from casinos, and the agency failed to adequately consider the cumulative impact of casino construction in the area); see also *Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (Agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create).

Among the cumulative impacts to resources that have not been fully analyzed are impacts to desert tortoise, impacts to desert bighorn sheep, impacts to golden eagles and migratory birds, and impacts to water resources. The cumulative impacts to the resources of the California deserts has not been fully identified or analyzed, and mitigation measures have not been fully analyzed as well.

## **H. The Alternatives Analysis is Inadequate**

NEPA requires that an EIS contain a discussion of the “alternatives to the proposed action.” 42 U.S.C. §§ 4332(C)(iii),(E). The discussion of alternatives is at “the heart” of the NEPA process, and is intended to provide a “clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. §1502.14; *Idaho Sporting Congress*, 222 F.3d at 567 (compliance with NEPA’s procedures “is not an end in itself . . . [but] it is through NEPA’s action forcing procedures that the sweeping policy goals announced in § 101 of NEPA are realized.”) (internal citations omitted). NEPA’s regulations and Ninth Circuit case law require the agency to “rigorously explore” and objectively evaluate “all reasonable alternatives.” 40 C.F.R. § 1502.14(a) (emphasis added); *Env’tl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed. Appx. 440, 442 (9th Cir. 2007). “The purpose of NEPA’s alternatives requirement is to ensure agencies do not undertake projects “without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same

result by entirely different means.” *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when “all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated.” *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency’s failure to consider a reasonable alternative is fatal to an agency’s NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) (“The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate.”).

If BLM rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. *See Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

Here, BLM too narrowly construed the project purpose and need such that the DEIS/R did not consider an adequate range of alternatives to the proposed project.

The alternatives analysis carried forward in the DEIS/R is inadequate because the alternatives are limited to on-site projects without looking at alternative locations or a distributed scenario. Additional feasible alternatives should be considered including but not limited to an alternative which would: utilize private lands closer to the energy load; off-site alternatives that would significantly reduce the impacts to biological resources including desert tortoise habitat and key movement corridors, and others.

Because there are many feasible alternatives that would avoid or reduce significant impacts of the proposed project that were not considered, but rather were summarily dismissed, and because the range of alternatives is inadequate, the BLM’s has failed to comply with NEPA. The existence of several feasible but unexplored alternatives shows that the BLM’s analysis of alternatives in the DEIS/R is inadequate. The Center urges the BLM to revise the DEIS/R to adequately address a range of feasible alternatives and other issues detailed above and then to re-circulate a revised or supplemental DEIS for public comment.

#### **IV. Conclusion**

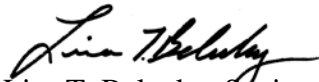
Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the BLM to revise and re-circulate the DEIS/R before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to revise the DEIS/R and provide adequate analysis, the BLM should select the no action/no project Alternative E or Alternative G which finds the site unsuitable for

solar, no BLM ROW would be granted, (and No County Permit would be granted). Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,



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**Attachment and References: (will be provided on disc via U.S. Mail)**

**DEFENDERS OF WILDLIFE  
CALIFORNIA NATIVE PLANT SOCIETY  
NATIONAL PARKS CONSERVATION ASSOCIATION  
NATURAL RESOURCES DEFENSE COUNCIL  
SIERRA CLUB  
THE WILDERNESS SOCIETY**

March 3, 2014

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Re: Comments on the Draft Plan Amendment/Environmental Impact Statement /Environmental Impact Report for the proposed Soda Mountain Solar Project

Dear Mr. Childers:

The above-named conservation organizations hereby submit comments on the Draft Plan Amendment/Environmental Impact Statement (“DEIS”)/Environmental Impact Report (“DEIR”) for the proposed Soda Mountain Solar Project. Collectively we submitted scoping comments for these proposed federal actions on December 14, 2012.

The proposed Soda Mountain Solar Project is a 350 megawatt photovoltaic facility along with the necessary ancillary facilities including a project substation, access road, realignment of an existing route (Razor Road), operations and maintenance buildings, and lay-down areas. The project is proposed on 4,397 acres with the solar field occupying approximately 2,691 acres straddling both sides of Interstate 15.

Defenders of Wildlife (“Defenders”) has more than 1 million members nationwide with more than 170,000 members and supporters in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The California Native Plant Society (“CNPS”) is a non-profit environmental organization with nearly 10,000 members. CNPS’ mission is to protect California's native plant heritage and preserve it for future generations through application of science, research, education, and conservation.



CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed and environmental friendly policies, regulations, and land management practices.

The National Parks Conservation Association (“NPCA”) is dedicated to the protection and enhancement of National Parks for current and future generations. NPCA advocates on behalf of 750,000 members and activists. NPCA works to safeguard the protections won for resources and recreational opportunities within the California Desert, and manages three field offices in the Mojave Desert, including the Mojave Field Office in Barstow, CA.

The Natural Resources Defense Council (“NRDC”) has over 1.2 million members and online activists nationwide, more than 250,000 of whom live in California. NRDC uses law, science and the support of its members and activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things. NRDC has worked to protect wildlands and natural values on public lands and to promote pursuit of all cost effective energy efficiency measures and sustainable energy development for many years.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters (approximately 250,000 of whom live in California) dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club's concerns encompass protecting our public lands, wildlife, air and water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

The mission of The Wilderness Society (“TWS”) is to protect wilderness and inspire Americans to care for our wild places. We have worked for more than 70 years to maintain the integrity of America's wilderness and public lands and ensure that land management practices are ecologically sustainable and based on sound science. With more than half a million members and supporters nation-wide, TWS represents a diverse range of citizens.

Our comments are as follows arranged by subject.

**1. General introduction:** Our organizations have significant concerns with the proposed project, and believe the Soda Mountain Solar Project application area is inappropriate for development. These concerns have been expressed previously (2012) in our scoping comment letter as well as in a letter to Jim Kenna, the Bureau of Land Management (“BLM”) State Director for California, dated November 20, 2012. Our concerns regarding the proposed project in this location stem from several primary issues: 1) Impact to an existing herd of bighorn sheep in the South Soda Mountains, 2) Impact to future conservation actions to enhance or reestablish movements of bighorn sheep north of I-15, 3) Impacts to the nearby Mojave National Preserve, 4) Groundwater use, 5) Potential impact to water discharge at Soda Spring within the Mojave National Preserve, and 6) Potential adverse impact to a population of endangered Mohave tui chub at Soda Spring ponds, and 7) Impact to a



relatively large population of burrowing owls. These concerns and potential impacts are addressed in greater detail in subsequent sections of this letter.

As made clear by the range of alternatives and as discussed further below, the North Array, East Array, and portions of South Array would have significant direct adverse impacts on listed and sensitive species and other public resources that cannot be mitigated and so must be avoided by eliminating these areas from the project. They include:

- North Array: Significant adverse impacts to bighorn sheep and conservation opportunities to reestablish connectivity to the North Soda and Avawatz Mountains;
- East Array: Significant adverse impacts to desert tortoise habitat, including an area with a documented moderate amount of desert tortoise sign and one adult desert tortoise; to desert bighorn sheep and opportunities to reestablish connectivity; to consequential numbers of burrowing owl burrows and habitat;
- Eastern 1/3 and south 1/3 of the South Array: Significant adverse impacts to bighorn sheep, burrowing owl burrows and their habitat.

In addition, the DEIS/DEIR failed to look at a sufficient range of alternatives.

These issues require that BLM make substantial changes to the proposed action to address impacts of the arrays that have not been analyzed; add a new alternative that is outside the spectrum of alternatives already analyzed; and/or address significant new information related to the water resources that would be affected by this project. All of these require that BLM supplement the environmental analysis and issue a supplemental DEIS for public review and comment.

For these reasons, we recommend that BLM and San Bernardino County adopt Alternative G (no project) as their preferred alternative unless more environmentally suitable alternative locations are considered and analyzed in a supplemental DEIS.

**2. Status of the proposed project:** The original right of way application for the proposed project was submitted to BLM in 2007 by Caithness and the project was identified at that time as “Caithness Soda Mountain.” The proposed project is now called “Bechtel-Soda Mountain” on BLM’s solar project application website:

<http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy/solar.Par.84447.File.dat/BLM%20Solar%20Applications%20&%20Authorizations%20April%202013..pdf>

The proposed project is not currently identified by BLM as an “active project” on the BLM’s National renewable energy website:

[http://www.blm.gov/pgdata/content/wo/en/prog/energy/renewable\\_energy/active\\_renewable\\_projects.html](http://www.blm.gov/pgdata/content/wo/en/prog/energy/renewable_energy/active_renewable_projects.html)

We were particularly surprised and concerned that BLM chose to prioritize the processing of this application when it announced a 30-day issue scoping period beginning on 10/23/2012 through a Federal Register Notice. Given that, when reviewed using BLM’s own screening criteria (IM 2011-

061), the proposed project has both medium and high conflict characteristics, we recommend BLM process other applications with overall lower environmental conflicts.

**3. General ecological site conditions:** In a report prepared by The Nature Conservancy<sup>1</sup>, the project area is characterized as “biologically core” habitat. Representatives of some of our organizations have visited the proposed project site on numerous occasions and we agree that the site is largely in a natural condition, both north and south of I-15.

**4. Relationship to the Desert Renewable Energy Conservation Plan:** The project area is located on lands classified as high biological sensitivity in the “preliminary biological reserve design” for the Desert Renewable Energy Conservation Plan (“DRECP”) prepared by DRECP consultants and provided to the Independent Science Advisors in late June of 2012.<sup>2</sup> At that time the proposed project was removed from DRECP maps of pending solar project applications. Development in this location, which is within a preliminary biological reserve of the DRECP, undermines the effectiveness of the conservation reserve component of the DRECP.

**5. Alternatives to the proposed project:** The DEIS/DEIR does not analyze a sufficient range of alternatives. In particular, the DEIS/DEIR should be supplemented with analysis of at least one alternative site for this project, for the following reasons.

Alternatives to the proposed project (Alternative A) analyzed in the DEIS/DEIR include: 1) Alternative B, which eliminates the North Array; 2) Alternative C, which eliminates the East Array; 3) Alternative D, which reduces the extent of the East and South Arrays; 4) Alternative E, in which the project would not be authorized but the site would remain available for future solar applications processed under the Variance Lands criteria stemming from the programmatic federal solar plan (otherwise known as the “Solar PEIS”); 5) Alternative F, in which San Bernardino County would deny the water wells for the project, the BLM would authorize any of the project construction alternatives, and water for construction and operation of the project would be obtained off-site and transported by truck, and 6) Alternative G, where BLM would deny the project, classify the project area as unavailable for solar energy development, and San Bernardino County would deny groundwater wells.

Alternative project sites on public land were considered, but all were rejected: “The Applicant initially reviewed more than 20 sites on BLM-administered public land in southern California, seeking a suitable site with high solar insolation, access to highways, proximity to electric

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<sup>1</sup> Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. Mojave Desert Ecoregional Assessment. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pages + appendices. Available at: <http://conserveonline.org/workspaces/mojave/documents/mojave-desert-ecoregional-2010/@@view.html>.

<sup>2</sup> [http://www.drecp.org/meetings/2012-06-26\\_meeting/review/09\\_Map-DRECP\\_Planwide\\_Biological\\_Reserve\\_Design.pdf](http://www.drecp.org/meetings/2012-06-26_meeting/review/09_Map-DRECP_Planwide_Biological_Reserve_Design.pdf)



transmission lines, and relatively flat slope (less than 5 percent). Site visits and other additional investigation resulted in the elimination of 15 sites that were subject to prior pending ROW grant applications or infeasible due to insufficient size, distance to transmission, greater slopes, access limitations, and other factors. An additional four of the five remaining sites were rejected from further consideration because they were located in DWMA's designated to protect desert tortoise (Soda Mountain Solar, LLC, 2013b)." DEIS, page 2-39.

Similarly, private land project sites were rejected: "The Applicant examined 4,853,760 acres of lands within 50 miles of the proposed ROW to determine whether a suitable private site could be found for the Project. The Applicant sought lands of sufficient size, contiguity, and proximity to adequate transmission lines to support the Project and identified two potential sites with over 2,500 contiguous acres of private land in close proximity to a transmission line: one consisting of approximately 12,020 contiguous acres (the "West Site"), the other consisting of approximately 3,262 contiguous acres (the "East Site"). The West Site and East Site are shown on Figure 2-8." DEIS, page 2-39.

"These potential site alternatives would not have met the BLM's purpose and need to respond to the Applicant's application under Title V for a ROW grant under the authorities and for the purposes described above. In addition, the Applicant also rejected these sites based on environmental resource constraints that would have limited the area available for development such that it was too small to meet the Applicant's objectives for the Project, and because implementation of these site alternatives would not avoid or substantially lessen any significant effects of the Project." DEIS, pages 2-39, 40.

**Comment:** Although the applicant reportedly considered more than 20 alternative project locations on public land, the DEIS did not specify their locations or provide any comparative analysis of the environmental impact relative to the proposed project. We also question the validity of the statement that nearly 4.9 million acres within 50 miles of the proposed project were examined for suitable private land for the project. The DEIS should have identified how these alternative sites overlap with designated Solar Energy Zones. The DEIS is deficient in this regard, and we recommend that locations within Solar Energy Zones that are not encumbered by existing applications be identified and analyzed.

Furthermore, statements that current application owner, Bechtel, considered 20 alternative sites is not a sufficient analysis of alternative locations. The names and particulars of these locations should be provided to the public. We are not able to assess the validity of the assertion that the public land sites which had ROW applications during Caithness' original site investigation are still under ROW grant, and believe, given the amount of time between Caithness' original investigation (a time during which much of the CDCA was subject to speculative ROW applications, prior to the BLM's changes in fee structure and due diligence requirements), the BLM should not rely on these statements.

**Comment:** Because the applicant does not have a power purchase agreement for the project, it is unreasonable to limit the search for available site locations to sites of a certain size. The applicant is



under no commercial obligation or requirement to develop a project delivering a certain amount of power and the search for locations should include areas which could support smaller projects.

**Comment:** We strongly recommend that disturbed or fragmented lands within the Mojave Valley (Daggett Triangle) be considered as alternative locations for the proposed project. Nearly 4,000 acres of such lands in two separate units were identified as potential alternatives for the proposed Calico solar project in the Final Staff Assessment and Supplemental Staff Assessment for the Calico solar energy project published by the California Energy Commission in 2010. See: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=08-AFC-13>

**Comment:** Given the environmental issues associated with this proposed project, we are concerned that BLM's preliminary preferred alternative is the proposed project or Alternative A, and that San Bernardino County's preferred alternative is Alternative B (including approval of a groundwater well permit). Alternative B would reduce the size of project by a mere 575 acres which San Bernardino County considers the environmentally superior alternative because it would result in 575 fewer acres of permanent disturbance and 59 fewer acres of temporary disturbance compared to the proposed project, and would disturb the fewest acres among Alternatives A, B, C, or D. None of the alternatives to the proposed project would avoid the significant adverse environmental impacts. We recommend that BLM and San Bernardino County adopt Alternative G (no project) as their preferred alternative unless more environmentally suitable alternative locations are considered and analyzed in a supplemental DEIS.

**6. Desert Tortoise:** The proposed project is located in a crucial habitat linkage for the desert tortoise, identified by the U.S. Fish and Wildlife Service ("USFWS") as Priority 1 linkage habitat in its comments to BLM on the recently approved Solar PEIS. In its comments, the USFWS recommended excluding Priority 1 desert tortoise habitat linkages from the "variance" lands so that they would be protected and not available for future solar energy projects.

**Comment:** It is our understanding that additional modeling and mapping of desert tortoise habitat linkages in the vicinity of the proposed project now place the least-cost corridor to the north of the North Array and closer to the Fort Irwin boundary. We recommend that BLM confirm with the USFWS this change in location of the least-cost corridor and provide documentation of their response. We also note the corridor location change appears to be consistent with the least-cost corridor depicted in Averill-Murray et al. (2013)<sup>3</sup>. The most recent desert tortoise surveys of the project site in 2013 documented an area within and east of the proposed East Array that contained a moderate amount of desert tortoise sign and one adult desert tortoise. With regard to minimizing impacts to the desert tortoise, we recommend that the East Array be eliminated.

**7. Burrowing owl:** The Project site appeared to support between 9 and 24 burrowing owls during surveys in late 2012, with 24 burrows showing signs of recent use by burrowing owls. Burrowing owls were observed using 8 of the 24 active burrows, and 1 additional owl was also observed in the

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<sup>3</sup> Averill-Murray, R., C. Darst, N. Strout and M. Wong. 2013. Conserving population linkages for the Mojave desert tortoise (*Gopherus agassizii*). *Herpetological Conservation and Biology* 8(1):1-15.



Project ROW (Panorama Environmental, Inc., 2013a). Phase 3 burrowing owl surveys in 2013 detected owl sign at 50 burrows (Kiva Biological Consulting, 2013b). The entire Project site may be used by burrowing owls for foraging during migration or as resident breeding and foraging habitat. DEIS, p. 3.4-11.

**Comment:** The project site supports appreciable numbers of burrowing owls, a BLM-designated Sensitive Species. BLM management policy for Sensitive Species is to “initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.” BLM Manual 6840, Objective B. The proposed action, which is BLM’s preferred alternative, is contrary to its policy for the management of Sensitive Species.

**8. Desert bighorn sheep:** Impacts of the proposed project on desert bighorn sheep are among the most serious of our concerns. The proposed project is immediately adjacent to a large herd of desert bighorn that recently recolonized the South Soda Mountains, and it threatens future conservation actions for this Sensitive and Fully Protected Species in the central region of the Mojave Desert on public lands and National Park Units. Recolonization of the South Soda Mountains is directly attributable to the presence of a reliable source of water accessible to bighorn sheep as Soda Springs, which is an essential element in maintaining this sub-population. The threats to this species and future conservation actions associated with this proposed project have been identified recently in a report<sup>4</sup> submitted to the California Department of Fish and Wildlife (“CDFW”), National Park Service and the BLM.

Along the entire length of I-15 in California, two critically important linkage areas for desert bighorn have been identified; one near Mountain Pass, and one in the vicinity of where the Soda Mountains meet I-15<sup>5</sup>, which is the location of the proposed project. Development of the proposed project area would essentially eliminate an important bighorn sheep connectivity and conservation opportunity.<sup>6</sup>

Ground surveys for bighorn sheep were conducted by personnel from the CDFW in the vicinity of Soda Spring on April 30 and May 1, 2012, and by consultants from observation points in the South Soda Mountains from March 23 to March 25, 2011. Surveys from observation points were located south of I-15 in and around the South Soda Mountains adjacent to the proposed project. Location of observation points was not reported in the DEIS. Bighorn sheep and their sign were incidentally observed and documented in desert tortoise surveys performed by Kiva Biological Consulting. Aerial surveys by helicopter were conducted in the North Soda Mountains on March 21 and 22,

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<sup>4</sup> Epps, C., J. Wehausen, R. Monello and T. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn connectivity. Report submitted to the California Department of Fish and Wildlife, National Park Service and Bureau of Land Management. February 25, 2013. 10 pp.

<sup>5</sup> Epps, C., J. Wehausen, V. Bleich, S. Torres and J. Brashares. 2007. Optimizing dispersal and corridor models using landscape genetics. *Journal of Applied Ecology* (2007) 44: 714-724.

<sup>6</sup> Epps et al. 2013. Ibid



2011, and May 9, 2011. The aerial surveys included six 2-hour flights. Surveys for bighorn sheep, both aerial and ground-based, were performed over very limited periods of time.

Bighorn sheep sightings were reported after ground and aerial surveys were completed, and these are included in the DEIS, as follows: In fall 2012, five sheep and sheep bedding sites were detected on the west side of the south Soda Mountains, approximately 0.5 mile east of the Project ROW (Panorama Environmental, Inc., 2013a; Appendix E, Figure 3.3-10). Three adult ewes also were observed foraging within and adjacent to the north ends of the proposed East Array south of I-15 (Panorama Environmental, Inc., 2013b). These recent observations and anecdotal reports of sheep presence in the Soda Mountain valley cited in the BRTR (Panorama Environmental, Inc., 2013a; Appendix E) indicate that bighorn sheep intermittently forage and shelter in portions of the Project ROW located south of I-15.

**Comment:** Clearly, based even on relatively brief surveys and incidental observations, the project area and adjacent mountainous terrain is not only suitable habitat, but periodically occupied by bighorn sheep. This is consistent with and confirms the suitability of the habitat within and adjacent to the proposed project, as noted in the following comment.

**Comment:** The statement in the DEIS Biological Technical Report that the project area is not identified as intermountain or mountain habitat is not correct. This error is due to reference to an outdated DRECP Updated Expert Species Model for bighorn sheep habitat dated 2012. In May 2013, John Wehausen prepared an updated bighorn sheep habitat map for use by the CDFW in the DRECP and in its draft management plan for desert bighorn, and that map shows the entire project area is located in intermountain habitat for the species. The DEIS analysis should be updated to incorporate the 2013 Wehausen map of desert bighorn sheep habitat that shows the project area as located in intermountain habitat for the species.

**Comment:** The ground surveys for bighorn sheep and their sign were conducted over brief periods of time and did not adequately cover all of the potentially suitable terrain adjacent to the proposed project. CDFW's surveys were limited to areas adjacent to Soda Spring, and consultants conducted ground surveys only from undisclosed observation points or stations. These surveys focused on observing live animals and would naturally fail to account for bighorn sheep sign (tracks, fecal pellets and bedding sites).

We recommend additional systematic ground surveys be performed during each season over multiple years in suitable mountainous habitat as well as a 0.5 mile buffer from the lower 20% slope contour that extends into the proposed project in several areas. Such surveys should be performed north and south of I-15 and should include lower elevation mountainous areas within and surrounding the project application area. Such systematic surveys are important to determine if bighorn are utilizing areas south of the proposed South Arrays of solar panels as "stepping-stone" habitats linking bighorn-occupied habitat in the Cave Mountain and Cady Mountains to the west.



Indeed, Epps et al. reported finding bighorn sheep sign in this specific area: “Currently there is well-established bighorn sheep use of habitat on the south side of the proposed project site in the South Soda Mountains and between there and Cave Mountain, and these sheep may use undercrossings B and D occasionally.” (Note: Undercrossing B and D are located at existing bridges over I-15; Undercrossing B is located in the middle of the proposed project and undercrossing D is located near the Zzyzx off-ramp on I-15).

**Comment:** Aerial surveys are not designed or capable of detecting bighorn sheep sign such as bedding sites or fecal pellet groups.

**Comment:** Recent field surveys for bighorn sheep and their sign were reported in Epps, et al. (2013)<sup>7</sup> including their finding of historic bighorn sheep trails that exist north of I-15 and that connected with the reliable water source at Soda Spring. Epps et al. concluded that the construction of I-15 greatly diminished or curtailed bighorn use of this habitat corridor which led to isolation of suitable habitat in the North Soda Mountains and lack of use by bighorn sheep. Epps, et al. was submitted during the scoping period for the proposed project, but does not appear to be fully accounted for or appropriately used in the DEIS analysis of effects of the project on bighorn sheep. Epps, et al. (2013) should be incorporated into the DEIS.

**Comment:** Epps et al. found the corridor linking the Avawatz Mountains and S. Soda Mountains was the *highest-ranking restorable corridor* in their study of desert bighorn population connectivity in the Mojave Desert metapopulation area. They found this corridor to be the most influential restorable corridor because it would demographically link two major bighorn sheep populations on either side of I-15. Significantly, they reported that their study indicates that the Avawatz-South Soda Mountains corridor is the only restorable one short enough to connect populations on either side of I-15 within the estimated maximum dispersal range of a female bighorn sheep. This is especially important because demographic (population) connectivity is associated with females reproducing and colonizing suitable habitat patches. In contrast, male bighorn sheep dispersal is associated with genetic connectivity and not necessarily in direct support of establishing populations through recolonization of suitable habitat.

Epps et al. concluded that “The proposed solar development along I-15 that lies between the North and South Soda Mountains has the potential to interfere with, if not preclude, future corridor restoration efforts in this location, including the building of one or more bridges for sheep.”

**Comment:** Intermountain movements of bighorn sheep are considered essential in maintaining their overall genetic health, recolonizing suitable habitat and expanding their ranges. Recently,

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<sup>7</sup> Epps et al. 2013. Ibid.



bighorn sheep experts have stated the importance of protecting not only mountainous habitat, but intermountain habitat as a critical component of bighorn sheep conservation strategies.<sup>8 9</sup>

**Comment:** The relationship of the bighorn herd in the South Soda Mountains to those in the Old Dad Mountains, Cave Mountain, Cady Mountains and Bristol Mountains needs to be established through additional field surveys including radio telemetry studies. We raise this issue because there is documentation of a bighorn ram from the Old Dad Mountains traversing Soda Dry Lake and spending time in the South Soda Mountains during the rutting season.<sup>10</sup> Such movements could extend to other mountain ranges and demonstrates the high probability that reestablishing bighorn movements into the North Soda Mountains and Avawatz Mountains is a feasible conservation action in the future.

The long-term effects of the proposed project on regional bighorn sheep herds and their movements to and from the South Soda Mountains need to be analyzed further.

**Comment:** Mitigation measures to address impacts to desert bighorn sheep include those proposed by the applicant (i.e., #75: Two water sources will be created to encourage bighorn sheep migration to the north of I-15) and additional measures proposed by the agencies (i.e., 3.4-3: Bighorn Sheep Habitat Connectivity: Applicant shall provide funding for CDFW to install between three and five (total) pre-fabricated bighorn sheep water guzzlers in the north Soda Mountains/Avawatz Mountains corridor and provide funding to refill them through the life of the project.

**Comment:** It is very doubtful that adding two or more water sources in the North Soda Mountains will mitigate the overall negative impacts of the proposed project on bighorn sheep. Field surveys confirmed the presence of historic bighorn sheep trails north of I-15, that are not used now that the highway serves as a barrier between the south Soda and Avawatz Mountains. The most effective way to enhance or reestablish connectivity between the south Soda and Avawatz Mountains is to address the I-15 barrier issue through the construction of a dedicated bighorn sheep bridge crossing where mountainous terrain is in proximity to I-15, such as immediately west of the Zzyzx off-ramp. Based on Epps, et al. (2013) we now know that bighorn movements into the north Soda Mountains from the vicinity of Soda Spring and vice versa, occurred prior to the construction of I-15. Bighorn trailing evidence indicates that the North Soda Mountains once received a considerable amount of use without water because sheep could use the abundant water at Soda Spring on the eastern slope of the South Soda Mountains and travel readily back and forth between these two habitat patches.

Adding water sources north of I-15 as a mitigation measure is unlikely to reestablish connectivity absent construction of a bridge crossing over I-15, as evidenced by Epps et al. (2013).

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<sup>8</sup> Bleich, V., J. Wehausen and S. Holl. 1990. Desert-dwelling mountain sheep: Conservation implications of a naturally fragmented distribution. *Conservation Biology*, Vol. 4, No. 4, pp. 383-390 (Dec. 1990).

<sup>9</sup> Schwartz, O., V. Bleich and S. Holl. 1986. Genetics and the conservation of mountain sheep (*Ovis canadensis nelsoni*). *Biological Conservation* 37 (1986):179-190.

<sup>10</sup> Wehausen, J. Personal communication. 2014.



**Comment:** The adverse effects of the proposed project would affect the overall health and population of bighorn sheep in the south Soda Mountains and adjacent hills through encroachment into seasonal foraging habitat adjacent to mountainous terrain, resulting in both displacement of individuals seeking enhanced forage during the late winter and spring seasons located in washes and bajadas adjacent to mountainous terrain and precluding their movement across the project site to access suitable mountainous terrain. Providing breaks between solar panel arrays will not be conducive to bighorn sheep movements across the project site due to the narrow, linear nature of the breaks, absence of adjacent escape terrain and behavioral characteristics of bighorn to avoid areas of human use. The DEIS (page 3.4-41 states, “the presence of Project facilities may deter wary bighorn sheep from venturing through the site, or from using culverts in its vicinity.” The proposed east-west water transport and wildlife movement areas between the various solar panel sub-arrays would include a permanent 16-foot wide access road for motorized vehicle use during routine panel washing and fence inspections, and the estimated width of the unfenced breaks between solar panel sub-arrays is approximately 0.25 mile based on Figure 2.1 of the DEIS. These unfenced areas would also include east-west flood prevention berms. We believe it would be highly unlikely for bighorn sheep to traverse the project site using these unfenced areas, not only due to project facilities, as noted in the DEIS, but also because of routine vehicle use and human presence.

**Comment:** Biologists specializing in desert bighorn sheep conservation and management are working to delineate key habitat linkages for desert bighorn in the California Desert Conservation Area (“CDCA”). These linkages connect areas supporting bighorn populations, and they can include mountains or valleys, or a combination of both. Although desert bighorn favor mountainous terrain, they regularly cross valleys up to 10 miles wide during seasonal and permanent movements.<sup>11</sup> Maintaining desert bighorn movements on a landscape scale provides for gene flow among extant populations and colonization of vacant habitat patches, both of which are considered essential to long-term conservation and management of this species.

Along the entire length of I-15 in California, two critically important linkage areas for desert bighorn have been identified; one near Mountain Pass, and one in the vicinity of where the Soda Mountains meet I-15, which is the location of the proposed project. Development of the proposed project area would essentially eliminate an important bighorn sheep connectivity and conservation opportunity. As noted above, construction of a bridge over I-15 specifically for bighorn sheep, is a conservation management action deemed appropriate to reestablish connectivity among fragmented metapopulations in the region.

The Soda Mountains, including the proposed solar project site and adjacent hills, is the most likely habitat linkage connecting extant desert bighorn herds in the Avawatz, South Soda, Old Dad, North Bristol and Cady Mountains.<sup>12</sup> Desert bighorn populations in portions of the central Mojave region have recently undergone significant changes in distribution, such as the dramatic population increase in the Cady Mountains, and the natural recolonization of the South Soda Mountains. These recent

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<sup>11</sup> Wehausen, J. Personal communication. 2013.

<sup>12</sup> Epps et al. 2013. Ibid.



events involved increased movements by desert bighorn, behavior that is associated with naturally expanding populations.

To address the potential impacts of the proposed project on desert bighorn we recommend that a multi-year bighorn sheep occurrence and movements study be conducted involving tracking of a sufficient number of ewes and rams from each of the herds identified in the previous paragraph. Such tracking should include the use of GPS collars fitted to captured and released animals. The details of such a study should be developed and approved by the CDFW and fully funded by the project applicant. Once completed, the results of such a study should be published in a supplement to the DEIS for the proposed project and subject to public review and comment.

**Comment:** Desert bighorn sheep are designated by BLM as a Sensitive Species, and are one of several key “driver species” in the DRECP and an iconic desert dwelling animal. Given the substantial and unmitigated impacts of the proposed project on this species, the proposed project is contrary to BLM’s management policy for Sensitive Species, which is to “initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.” BLM Manual 6840, Objective B. The proposed project clearly is contrary to BLM’s management policy for Sensitive Species.

**Comment:** Approval of the proposed project would not only adversely impact desert bighorn, but also the biological goals and objectives of the DRECP relative to this species and its habitat. Thus, the proposed project would result in undermining the conservation potential of the DRECP for one of the more important species the plan will need to address.

**9. Groundwater and surface water:** The project applicant estimates that groundwater requirements during construction would be 192 acre-feet per year (AFY) for approximately three years and 31.4 AFY for operations for the 30 year life of the project. Water at Soda Spring within the Mojave National Preserve (also known as Zzyzx Spring) is derived from percolating groundwater transmitted through fractures in the base rock of the South Soda Mountains including Limestone Hill, a carbonate rock formation surrounded by volcanic rocks. It is believed that Soda Spring is associated with either the carbonate rock or faulting, or both. Soda Spring is located approximately four-miles east of the proposed solar project and has distinctly different chemical properties compared to Soda Dry Lake groundwater. Discharge from Soda Spring is constant year-round whereas the groundwater elevation at Soda Dry Lake fluctuates up to 1.5 meters annually. According to the hydrology technical report in the DEIS, “It is unknown whether the outflow from the Soda Mountain Valley contributes to groundwater flow at Soda Spring or whether the source of groundwater for Soda Spring is entirely local recharge on the east side of the south Soda Mountains.” Given the importance of Soda Spring to bighorn sheep and other park resources, better understanding of the hydrology must be obtained before considering using groundwater from the application site.

**Comment:** The DEIS and the accompanying hydrology technical report attempts to address impacts of the proposed project on groundwater and surface water based on very little supporting



data, and overly relies on groundwater modeling based on such scant data. Some of the essential data that need to be collected, analyzed and used in the groundwater model include the following:

- Test wells to accurately determine the depth of water-saturated alluvium.
- Test wells to determine porosity of the alluvium and its ability to transmit water.
- Test wells to determine effective yield of proposed water supply wells.
- Geochemical analysis and age-dating of groundwater within the project boundary compared with 1) that discharging at Soda Spring and nearby water supply wells, 2) groundwater associated with the Mojave River Wash within the Razor Off-highway Vehicle Area, and 3) groundwater in the well supplying the Razor Road gas station.

**Comment:** One of the inputs to the groundwater model is an estimate of groundwater recharge from precipitation. The DEIS and hydrology technical report rely on questionable assumptions regarding the amount of runoff from the Soda Mountains. The assumption that all precipitation in the mountains becomes runoff (i.e., no infiltration) needs to be revised based on applicable studies in the published literature. The current recharge estimates from mountains surrounding the valley are derived from studies in Owens Valley where the high-elevation Sierra Nevada was the mountain block generating recharge at diverse locations in the Owens Valley. The amount of runoff that contributes to groundwater recharge should also be reexamined and supported by applicable studies in published literature involving areas with topography and rainfall similar to that of the Soda Mountains region.

**Comment:** We recommend use of the Maxey-Eaken method<sup>13</sup> of estimating groundwater recharge developed for use in Nevada to develop groundwater recharge estimates for the groundwater model. The Maxey-Eaken method predicts in Nevada that no groundwater recharge occurs within basins that receive less than eight-inches of precipitation per year. Thus, based on the Maxey-Eaken method, the Soda Mountains groundwater basin recharge is effectively zero except for extraordinary occasions where annual precipitation exceeds eight-inches.

**Comment:** Assuming there is essentially zero recharge to the Soda Mountains groundwater basin, any groundwater in storage would have accumulated over many thousands of years and/or that would be coming from adjacent basins through interbasin flow (e.g., from the Mojave River or the adjacent Cronese Basin). If groundwater in the Soda Mountains groundwater basin underlying the project is prehistoric in age, groundwater pumping to support the project would effectively deplete the resource through “mining” of the groundwater in storage.

**Comment:** The groundwater model for the proposed project incorrectly assumes that mountains surrounding the basin (i.e., Soda Mountains) are impermeable to water passage and that subsurface discharge follows low-lying surface topographic features. In contrast, a geology report prepared for

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<sup>13</sup> Maxey G.B. and T.E Eakin. 1949. Ground water in White River Valley, White Pine, Nye , and Lincoln Counties, Nevada. Nevada Department of Conservation and Natural Resources. Water Resources Bulletin No. 8. Carson City NV.



the analysis of the proposed project<sup>14</sup> states the bedrock mountains adjacent to the proposed project are moderately to highly fractured. Additional geologic studies of the permeability of the South Soda Mountains due to fracturing of bedrock need to be conducted. This is a critical need, especially given the presence of an exposed limestone formation on the east slope of the Soda Mountains that is in proximity to Soda Spring.

**Comment:** The groundwater model boundary used to analyze the impacts of groundwater pumping is limited to the alluvial basin and adjacent mountain slopes and inappropriately does not extend to Soda Spring on the east side of the South Soda Mountains. This is a critical omission that should be corrected because of concern and uncertainty about the actual source of water emerging at Soda Spring and nearby water production wells, as stated in the DEIS.

**Comment:** Alternative F would entail BLM approval of the proposed project and San Bernardino County denying a permit to develop groundwater production wells on site. As a result, this alternative assumes water for the project would be obtained from a source outside of the project boundary. The DEIS makes the assumption that the impacts of this alternative on water resources would be similar to those of the proposed project, except that they would not impact groundwater resources in the Soda Mountains groundwater basin. We do not think this is an appropriate assumption because the impacts depend on the location of the off-site water source.

The DEIS should identify potential or probable sources for this water and the environmental impacts associated with its extraction. For example, if a source for this water is located to the west of the project closer to Barstow or Daggett, then the effects to the Mojave River and its associated sensitive resources needs to be analyzed.

**10. Climate Change:** Although the environmental consequences of climate change on the proposed project and alternatives are addressed in the DEIS in 3.5.4.3, we find the analysis of the potential decrease in precipitation and groundwater recharge is deficient. Specifically, the analysis of decrease in groundwater recharge and storage simply states, “In the event that climate change results in reduced precipitation within the Project area and its vicinity, some degree of associated reduction in groundwater recharge from rainfall could occur. This situation would not result in increased water requirements by the Project, and would not result in additional groundwater pumping during Project construction or operation and maintenance. Therefore, even with potential reductions in total precipitation volume associated with future climate change, no increase in pumping would be required.” DEIS, page 3.5-14.

**Comment:** The analysis fails to address the impacts of groundwater pumping in support of the entire project (construction, operation, decommissioning) in the event groundwater availability is diminished due to reduced groundwater recharge associated with climate change. The site-specific and regional effects of continuing to pump groundwater that is not recharged to the extent it is projected under the groundwater modelling need to be addressed. This is particularly important

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<sup>14</sup> Wilson Geosciences, Inc. 2011. Geologic Characterization Report, Soda Mountain Solar Project. March, 2011.



given the potential relationship of groundwater discharge at Soda Spring, and its critical role in sustaining a population of the threatened Mohave tui chub and wetlands within the Mojave National Preserve.

**11. Mojave National Preserve:** The proposed project is directly adjacent to the Mojave National Preserve (“Preserve”). The Preserve is the third largest national park unit in the lower 48 states, comprised of 1.6 million acres of land with spectacular examples of three out of four North American desert ecosystems: Sonoran, Mojave and Great Basin. Elevations range from 800 to 8,000 feet above sea level, and unique features include, but are not limited to: 1) 600 foot-high singing sand dunes, 2) the largest and densest Joshua tree forest on earth, 3) relict white fir and chaparral vegetation that line high mountain peaks and 4) over 240 naturally occurring seeps and springs that are essential in sustaining a wide variety of plant and animal species.

**Comment:** The proposed project may be in conflict with the purpose and values of the Preserve and the public’s expectations and desires for this nationally significant landscape. In 2011, over 500,000 tourists visited the Preserve and contributed to the economies of gateway communities. The 2003 University of Idaho Visitor Use Survey found that the two top reasons visitors thought the Preserve was “nationally significant” were because of its unspoiled and undisturbed natural areas and the fact that it protects wildlife habitat. During the same survey, visitor groups reported that the top management goals of the Preserve in the future should be 1) preservation of lands and resources, 2) maintaining pristine conditions as much as possible and 3) protection of water resources for wildlife. The project, if constructed, could adversely impact dark skies, scenic viewsheds, sensitive and endangered wildlife, and water resources.

**Comment:** Federally reserved water rights within the Mojave National Preserve were established in 1994 when the California Desert Protection Act was signed into law<sup>15</sup>. The Mojave National Preserve (in addition to public land wilderness area) was established by Congress through the reservation of public lands. These rights reserved, explicitly or by implication, sufficient quantities of water to fulfill the purposes of the Act. The Act charged the Secretary of the Interior and all other officers of the U.S. with taking all necessary actions to protect these federally reserved water rights.

The impact of the proposed project on federally reserved water rights within the Mojave National Preserve need to be addressed in a supplemental DEIS. We recommend that an impartial, comprehensive hydrologic study of ground and surface waters within the Mojave National Preserve affected by the proposed project be performed by the USGS with particular emphasis on the subsurface flow of the Mojave River, Soda Dry Lake, and Soda Springs. This is particularly important given that the current hydrology report and analysis states that the source of water at Soda Spring is unknown.

**Comment:** Under FLPMA and through its management of public lands, BLM can contribute to the protection of lands and resources within adjacent units of the National Park System (e.g., Mojave

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<sup>15</sup> [Public Law](#) 103-433 (16 U.S.C. §§ 410aaa through 410aaa-83, October 31, 1994). California Desert Protection Act of 1994). See specifically Section 2,b,1.



National Preserve) by ensuring that such multiple land uses are compatible, to the extent allowable under existing laws, with the purposes for which the National Park System Unit was established. FLPMA's coordination and consistency provisions regarding public land planning and management extend to other federal departments and agencies. FLPMA, Section 202(c)(9). More importantly, in the CDCA, FLPMA requires that the public lands be managed to provide for their immediate and future protection within the framework of multiple use and sustained yield, and the maintenance of environmental quality. FLPMA, Section 601(b).

The California Desert is comprised of a variety of federally administered lands including those withdrawn for military purposes and others withdrawn and designated as units of the National Park System. FLPMA, Section 601(a)(1), Section 601(c)(1).

In its management of public lands BLM is charged with maintaining environmental quality within the CDCA. This responsibility extends especially to lands within the National Park System because those lands can be adversely impacted by various multiple land use activities authorized by BLM adjacent to National Park System Units. BLM has a unique role under FLPMA to regulate the uses of public lands adjacent to the Mojave National Preserve in a manner that contributes to the protection of its lands and resources for the enjoyment and benefit of current and future generations.

The FLPMA requirement that BLM's management of public lands be coordinated and 'harmonious' extends to those management obligations of other federal agencies, as well as State and local governments:

"...to the extent consistent with the laws governing the administration of the public lands, coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies and of the States and local governments within which the lands are located." 43 U.S.C. 1712 (c)(9).

In spite of the above, the proposed Soda Mountains solar project poses an entirely new set of potential threats to visual and biological resources. The DEIS concludes that "the Project site would be visible from select locations within Mojave National Preserve, and the Project could introduce visual contrast into the landscape visible from these locations." DEIS, page 3.15-9. The proposed mitigation measures, namely constructing wildlife watering sources in the North Soda Mountains, and painting project facilities a neutral color to blend into the natural environment, are highly speculative and uncertain to minimize the potential adverse impacts.

The BLM Land Use Planning Handbook provides further guidance:

**"Coordination and Cooperation with Other Federal Agencies and State and Local Governments"**

“FLPMA and NEPA provide BLM managers with complementary directives regarding coordination and cooperation with other agencies and governments. FLPMA emphasizes the need to insure coordination and consistency with the plans and policies of other relevant jurisdictions. NEPA provides for what is essentially a cooperative relationship between a lead agency (here, normally BLM) and cooperating agencies in the NEPA process. ...Section 202(c)(9) of FLPMA also requires, to the extent practical, that BLM keep itself informed of other Federal agency and state and local land use plans, assure that consideration is given to those plans that are germane to the development of BLM land use plan decisions, and assist in resolving inconsistencies between Federal and non-Federal plans. The key is ongoing, long-term relationships where information is continually shared and updated.”

The Handbook further defines ‘coordination’ and the complementary FLPMA and NEPA directives:

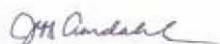
“Coordination, as required by FLPMA (Section 202(c)(9)), involves on-going communication between BLM managers and state, local, and Tribal governments to ensure that the BLM considers pertinent provisions of non-BLM plans in managing public lands; seeks to resolve inconsistencies between such plans; and provides ample opportunities for state, local, and Tribal government representatives to comment in the development of BLM’s RMPs (43 CFR 1610.3-1). The CEQ regulations implementing NEPA further require timely coordination by Federal agencies in dealing with interagency issues (see 40 CFR 1501.6), and in avoiding duplication with Tribal, state, county, and local procedures (see 40 CFR 1506.2). See Sections I(E)(1), Coordination under FLPMA; and I(F), Government-to-Government Coordination with Indian Tribes.”

This project as proposed will have a significant impact on resources of the Mojave Preserve—its wildlife, including bighorn sheep, water resources, and scenic values, among others. Park resources would be best served if the BLM selects Alternative G, no project.

**12. Conclusion:** The proposed project poses potentially significant and irreversible impacts on the resources described above. As noted above, we believe the proposed project should be denied and that BLM should amend the CDCA Plan to make the project area unavailable for renewable energy development. If BLM intends continue processing this application and ultimately adopt the proposed project as its proposed decision, we believe a supplemental DEIS needs to be prepared to address deficient impact analyses for various resources identified in our comments.

Thank you for the opportunity to comment on the DEIS for the proposed project.

Sincerely,



Jeff Aardahl  
California Representative  
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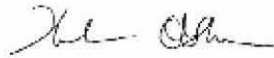




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# The Desert Protective Council, Inc.

P.O. Box 3635, San Diego, California 92163-1635

[protectdeserts.org](http://protectdeserts.org)

March 3 2014

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**RE: Comments of the Desert Protective Council for the Draft Environmental Impact Statement (DEIS) for the Soda Mountains Solar Project: CACA #049584**

Dear Mr. Childers,

The Desert Protective Council (DPC), founded in 1954, is a non-profit 501(c)(3) membership organization with members nationwide. The DPC's *mission is to safeguard for reverent and wise use by this and succeeding generations those desert areas of unique scenic, scientific, historical, spiritual or recreational value, and to educate children and adults to a better understanding of the deserts.*

Desert Protective Council Board and members have enjoyed hiking, camping, bird watching, photography, botanizing and have experienced spiritual refreshment in the general vicinity of the proposed Soda Mountains Solar Project. We cherish this part of the Mojave Desert for its remarkable beauty, broad unspoiled vistas and stunning diversity of plant and animal species. Desert Protective Council members have camped and hiked south and west of Baker, CA. in the Mojave National Preserve at the Cow Hole Dunes. The 360-degree view is mind-bendingly beautiful in all directions, particularly in late afternoon looking west toward the dry lake, which glows in the waning light. This project would interfere with a bighorn sheep corridor between mountain ranges and is within a mile of the Mojave Preserve, a jewel of the National Park System. The integrity of the Preserve's view shed would be ruined by the placement of a large-scale solar project along Interstate 15. The million-plus solar panels would have the potential to attract, confuse and kill birds.

*The mission of the Desert Protective Council is to safeguard for sustainable use by this and succeeding generations those desert areas of Southern California that are of unique or significant scenic, scientific, historical, spiritual, and recreational value, and to educate both children and adults to a better understanding of the desert.*

The DPC opposes the Soda Mountains Solar Project because it is sited in the wrong place. **The Desert Protective Council supports Alternative G:** “The site is unsuitable for a remote large-scale solar project” for a number of reasons, which we will summarize by stating that the **Draft Environmental Impact Statement is EIS is incomplete.**

**The DEIS is Incomplete:** The DEIS has several outstanding unresolved issues and the use of “adaptive management” realistically will not likely cover all of the problems that have been overlooked. For this reason, *the DEIS comment deadline should be delayed until BLM can provide more information for this project.* Since there is no power purchase agreement for this project, there should be no hurry to grant the requested right of way. The BLM has not decided whether to amend the CDCA Plan to identify the application area as suitable for the proposed solar energy and San Bernardino County has not decided whether to approve, deny or modify the requested groundwater well permit.

**The BLM should not amend the CDCA Plan** because it would not be consistent with FLPMA, *which requires BLM to prevent unnecessary and undue degradation of public lands. 43 U.S.C.1732 (b).*

- The BLM has not shown that it would be necessary to approve the industrial-scale solar project on this site and that there are no other suitable alternatives within or outside of the CDCA.
- A CDCA Plan amendment would not be consistent with the bioregional planning approach in the CDCA Plan.
- The overarching principles expressed in the Decision Criteria in the CDCA Plan are applicable to the proposed project, including providing adequate numbers of alternatives for consideration during the processing of applications, and “avoid[ing] sensitive resources wherever possible.” (CDCA Plan at 93.)

**The BLM Purpose and Need Statement** is too narrow because it only responds to the Applicant’s application under Title V of FLPMA for a ROW grant to construct, operate, maintain and decommission a solar photovoltaic facility on our public lands. The statement fails to acknowledge the public request to recognize the “*need*” to protect wildlife, visual, cultural, public access and hydrologic resources and does not adequately address the importance and potential permanent loss to future generations of, natural and cultural resources on and adjacent to the site.

The Purpose and Need Statement also states: “In accordance with Section 103(c) of the Federal Land Policy and Management Act (FLPMA) of 1976, public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources.”

There is nothing in FLPMA that states the need for renewable and non-renewable resources overrides the responsibility to protect natural, cultural and visual resources from unnecessary harm. Equally, there is nothing specific in FLPMA that points out that the project site targeted for the project needs to be developed. In fact, FLPMA stresses preservation of important resources as pointed out in Section 8 in the FLPMA Declaration of Policy: “*the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use*”.

The Desert Protective Council requests that the **Purpose and Need Statement** be rewritten to include mandates to protect sensitive biological, hydrological, cultural and visual resources.

**The Project does not meet the specifications of the National Environmental Policy Act (NEPA),** which requires consideration of a range of alternatives in every EIS document. NEPA requires that the agency adequately analyze all reasonable alternatives for achieving the project objectives, **including alternatives outside the immediate jurisdiction of the agency.**

- **The Council on Environmental Quality** has stated,

"Section 1502.14 [of the NEPA regulations] requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant"

And,

**An alternative that is outside the legal jurisdiction of the lead agency** must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Section 1506.2(d). Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)[emphasis added]".

The Soda Mountains Solar Energy Project in its proposed location would be inconsistent with the Best Management Practices concerning the National Environmental Policy Act, the Endangered Species Act, and the Federal Lands Management Policy Act, etc and should not be considered "environmentally responsible".

**Alternatives that could produce equivalent amounts of renewable energy without the impacts to Mojave Desert habitat that have been left out of the EIS:**

- **A Private Lands Alternative.**
- **A "Brown-fields" Alternative:** The US Environmental Protection Agency has identified over 15 million acres of degraded lands or "brown-fields" in the United States that would be appropriate for large-scale renewable energy development. <http://www.epa.gov/oswercpa/>
- **Local Rooftop Solar and Distributed Generation Alternative in the Already Built Environment Alternative.**

### **This DEIS had an inadequate Pubic Review Process:**

The California Desert District BLM is not recording comments from public meetings on the record. Several groups and individuals have complained about BLM's unwillingness to record public comments at meetings. The Desert Protective Council submitted a letter in January 2014 to the BLM Desert District requesting an adequate explanation for not recording oral comments at public meetings. We received no response to our letter. Failure to formally record public comments has occurred at two recent meetings concerning large renewable energy projects the DPC has attended. By not placing oral comments on the public record, BLM is in violation of the American Disabilities Act but this also seems to fly in the face of a purpose of a public meeting and is not democratic. At the January 11 2014 meeting for the Soda Mountains Project in Yucca Valley, California, the BLM was asked by the public to extend the comment period. These comments requesting an extension for the comment deadline were made to address the inadequacies of the DEIS. The National Environmental Policy Handbook, written by the BLM states:

*"You must maintain records of public meetings and hearings including a list of attendees (as well as addresses of attendees desiring to be added to the mailing list) and notes or minutes of the proceedings. Consult 455 DM 1 for procedural requirements related to public hearings. Check individual program guidance to determine requirements for public meetings and hearings."*

The BLM is in violation of its own guidelines by not documenting public comments at meetings.

[http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning\\_and\\_Renewable\\_Resources/NEPS.Par.95258.File.dat/h1790-1-2008-1.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/NEPS.Par.95258.File.dat/h1790-1-2008-1.pdf)

**In conclusion, the Desert Protective Council supports only Alternative G** because of the many unresolved issues with the project, including impacts to the desert soil, in particular cryptobiotic soil crusts, impacts to air quality from construction activities and from the inevitable particulate pollution that will result from scraping the surface of the desert and from removing all plants and animals in the areas of solar panel installations, impacts to our beleaguered California state reptile, the desert tortoise, and to other resident reptiles, impacts on local desert aquifers and springs and associated riparian-dependent plants and wildlife, impacts to the visual resources, impacts to the ever-dwindling desert dark skies, impacts to surrounding wilderness areas and to the wild character of the Mojave National Preserve, impacts to recreation, and to the experience of tourists from all over the world who visit the Mojave Desert for its wild beauty.

Most of the impacts listed above have been extensively addressed in the comments of Pat Flanagan, for the Morongo Basin Conservation Association, of Kevin Emmerich of Basin and Range Watch, of the National Parks and Conservation Association, and by Michael Garabedian. The Desert Protective Council hereby incorporates by reference the comments of all of the above individuals and organizations.

Thank you very much for the opportunity to submit these comments into the public record on behalf of the Desert Protective Council for the Soda Mountains Solar Project.

Please keep the Desert Protective Council on the mailing list for all documents and notices pertaining to this project.

Sincerely,

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BY ELECTRONIC MAIL

March 3, 2014

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RE: Comments Soda Mountain Solar Project Draft Plan Amendment/  
Environmental Impact Statement/Environmental Impact Report, November  
2013 CACA #049584 (SCH 2013101055)

Dear Mr. Childers:

I am writing on behalf of Laborers International Union of North America, Laborers Local Union 783, and individual members and San Bernardino County residents Lonnie Passmore and Rodrigo Briones ("LIUNA" or "Commenters"), to submit the following concerns and comments on the proposed Soda Mountain Solar Project ("Project"), the related California Desert Conservation Area ("CDCA") Plan Amendment, and the accompanying draft joint environmental impact statement and environmental impact report ("DEIS"). Although the DEIS identifies numerous significant impacts that will result from the preferred project alternative, it fails to discuss and, pursuant to CEQA, require implementation of numerous mitigations that would reduce significant air pollution and wildlife resource impacts. The discussion of wildlife impacts also does not provide a complete and reasonable baseline for golden eagles as well as burrowing owls. These and other concerns detailed below as well as in the accompanying expert comments require BLM and the County to amend the DEIS/DEIR and recirculate it for additional public comment.

These comments are supported by the expert analysis of SWAPE environmental consultants. SWAPE's comments are attached hereto as Exhibit A and are incorporated herein in full by reference. Comments on the Project's impacts to biological resources are supported by the expert comments of biologist Scott Cashen, M.S. Mr. Cashen's comments are attached hereto as Exhibit B and are incorporated

herein in full by reference.

## **PROJECT DESCRIPTION**

The proposed Project consists of the construction and operation of a 358-MW solar PV project on approximately 2,557 acres within a proposed 4,179 acre right-of-way ("ROW") on BLM lands located on both sides of I-15 about six miles southwest of the town of Baker, California and adjacent to the western boundary of the Mojave National Preserve. The solar facility would consist of six large arrays of 1.7 million solar panels covering 2,557 acres of relatively undisturbed desert habitat. A North Array would be located on the northwest side of I-15 and cover 571-acres of federal land with PV panels producing 94 MW of power. Five other arrays of panels are located on the southeast side of the highway. The two East Arrays would cover 397 acres with panels producing 60 MW of power. Three additional arrays to the south would cover 1,197 acres producing about 204 MW of electricity. The Project also will include an operation and maintenance building, a high-voltage substation and switchyard, a storage/warehouse facility, a reverse osmosis water treatment facility, various access roads, brine ponds covering about 4 acres, up to three water storage tanks, and up to three non-potable water wells. Each of the Project's sub-arrays would be surrounded by security fencing. To construct the Project, construction equipment and trucks will emit nitrogen oxides ("NOx"), a harmful ozone precursor that will contribute to the Mojave Desert air basin's existing nonattainment of applicable ozone standards. The Project's PM10 emissions also will contribute to the region's nonattainment of the State's PM10 air quality standard and exceed the Antelope Valley Air Quality Management District's ("AVAQMD") CEQA thresholds of significance by a large margin.

## **STANDING**

LIUNA Local 783 members, including Messrs. Passmore and Briones, enjoy the natural environment of San Bernardino County and the Baker area. LIUNA Local 783 members regularly travel through the area where the Project is located and enjoy its wide-open spaces and bountiful wildlife, including burrowing owls, raptors, and desert bighorn sheep. LIUNA Local 783 members breathe the air in the vicinity of the Project and are directly affected and concerned about the area's designation as non-attainment by particulate matter and severe non-attainment for ozone pollution. As members of the public, LIUNA Local 783 members possess an ownership interest in public resources present in the region surrounding the Project, including but not limited to raptors, owls, desert tortoises, and bighorn sheep occurring there and nearby.

LIUNA represents construction workers and public service employees in many settings, including collective bargaining, seeking employment, training programs, legal rights, job safety, workplace fairness, and project approval and environmental review proceedings. LIUNA advocates for programs and policies that promote good jobs and a healthy natural and working environment for workers and their families. An important part of LIUNA's ongoing advocacy involves participating in and, where appropriate, challenging Projects that would result in harmful environmental effects, or the violation

of environmental laws, to the detriment of the interests of LIUNA's members. LIUNA strongly supports appropriate development of renewable energy. Renewable energy projects, however, must be carefully sited and designed so as to avoid unnecessary and damaging environmental impacts. They also must receive proper environmental review under NEPA and CEQA. This is especially true given the recent "gold rush" of solar energy proposals in the southern California region.

## **LEGAL BACKGROUND**

### **A. National Environmental Policy Act.**

"NEPA ... makes environmental protection a part of the mandate of every federal agency and department," *Calvert Cliffs' Coord. Comm. v. United States*, 440 F.2d 1109, 1112 (D.C. Cir. 1971) and is the "basic national charter for protection of the environment." 40 C.F.R. §1500.1(a); *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.* 538 F.3d 1172, 1185 (9th Cir. 2008). NEPA "is a procedural statute intended to ensure environmentally informed decision-making by federal agencies." *Cal. ex rel. Lockyer v. Dep't of Agriculture*, 575 F.3d 999, 1012 (9th Cir. 2009). NEPA "does not 'mandate particular results, but simply provides the necessary process to ensure that federal agencies take a hard look at the environmental consequences of their actions.'" *Id.* "The 'hard look' 'must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.'" *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 491 (9th Cir. 2011). Nor can an EIS's discussion of adverse impacts "improperly minimize negative side effects." *Id.* at 491. NEPA's purpose is "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. §1500.1(c).

### **B. California Environmental Quality Act**

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). See, e.g., Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App.4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose

purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.” *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354 (“Berkeley Jets”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). See also *Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.” CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.” Pub.Res.Code § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B).

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A ‘clearly inadequate or unsupported study is entitled to no judicial deference.’” *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal.3d 376, 391 409, fn. 12 (1988). As the court stated in *Berkeley Jets*, 91 Cal.App.4th at 1355:

A prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process.”

*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.

## DISCUSSION

### **A. The Range of Alternatives Considered in the DEIS/DEIR is not Adequate Because it Fails to Support The Contention That no Off-Site Alternative is Feasible nor Does it Justify Rejecting a Preferred Alternative That Would Have Fewer Impacts on Desert Tortoise and Wildlife Movement.**

An EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. “An EIR’s discussion of

alternatives must contain analysis sufficient to allow informed decision making.” *Laurel Heights*, 47 Cal.3d at 404.

The considered alternatives must include the environmentally superior alternative, which the lead agency is required to select unless it is infeasible. As explained by the Supreme Court, an environmentally superior alternative may not be rejected simply because it is more expensive or less profitable:

The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project.

*Citizens of Goleta Valley v. Bd. of Supervisors* (1988) 197 Cal.App.3d 1167, 1180-81; see also *Burger v. County of Mendocino* (1975) 45 Cal.App.3d 322 (county’s approval of 80 unit hotel over smaller 64 unit alternative was not supported by substantial evidence). “A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.” CEQA Guidelines § 15021(a)(2). Furthermore, “[b]ecause an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” CEQA Guidelines § 15126.6(b).

Likewise, consideration of alternatives is the heart of an EIS under NEPA. See 40 C.F.R. § 1502.14. An agency must “[r]igorously explore and objectively evaluate all reasonable alternatives.” *Id.* Although an agency is not required to consider an alternative that is remote or speculative, a discussion of alternatives that is conclusory is inadequate. See Mandelker, Daniel R., *NEPA Law and Litigation*, §10:27. EISs have been rejected where they effectively limit their consideration of alternatives to a single alternative. See *Natural Resources Defense Council v. Evans*, 232 F.Supp.2d 1003 (N.D.Cal. 2002).

The DEIS/DEIR provides no support for its selection of the Project as the preferred alternative. Cashen Comments, p. 2. Implicitly, the rationale appears to be bigger is better. Although the DEIS/DEIR claims to have considered seven alternatives, including the preferred alternative, the alternatives are merely modest variants on the Project. It is not clear from the DEIS/DEIR why the Project is the preferred alternative, given the ability to reduce and/or alter the size of the arrays to reduce some impacts to desert tortoise and wildlife movement through the site. *Id.* At least one alternative should have been included that avoided the Project area where the most desert tortoise sign was observed and been considered in light of the impacts to wildlife movement through the site and across I-15. *Id.*



In addition, the DEIS/DEIR makes it impossible for the public to review its conclusion that there are no feasible off-site alternatives. *Id.* No descriptions of the rejected sites are included. No appendix or citation to evidence is provided for a commenter to review the details of the discussion. As a result, the DEIS/DEIR's conclusion that no off-site alternative is feasible or worthy of discussion is arbitrary and otherwise not supported by evidence.

**B. The EIS Fails to Consider and the EIR Fails to Adopt Additional Feasible Mitigation Measures That Would Further Reduce the Project's Significant and Unavoidable Air Quality Impacts From its Emissions of NOx And PM10.**

Although the DEIS/DEIR acknowledges the Project's significant air quality impacts during construction and decommissioning from its substantial emissions of NOx, an important ozone precursor, and PM10, the DEIS/DEIR fails to consider or, in the case of the EIR, adopt additional mitigations that would at least reduce these impacts. By failing to consider and adopt these mitigations, the DEIR is inadequate under CEQA.

Pursuant to NEPA, BLM "must utilize the EIS to discuss such mitigation measures in sufficient detail to ensure there has been a fair evaluation of the consequences." *High Sierra Hikers Ass'n v. U.S. Dep't of Interior*, 848 F.Supp.2d 1036, 1052-54 (N.D. Cal. 2012). In the EIS, BLM "must perform some assessment of whether the mitigation measures would be effective." *Id.* at 1056. "[The] assessment must include 'an estimate of how effective mitigation measures would be if adopted' or a 'reasoned explanation as to why such an estimate is not possible.'" *Id.* Because BLM did not take a hard look at additional mitigation measures to further reduce the Project's NOx and PM10 emissions, the DEIS/DEIR is arbitrary as currently written.

CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." Pub. Res. Code § 21081; 14 Cal. Code Regs. § 15092(b)(2)(A) & (B).

In general, mitigation measures must be designed to minimize, reduce or avoid an identified environmental impact or to rectify or compensate for that impact. CEQA Guidelines § 15370. Where several mitigation measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. *Id.* at § 15126.4(a)(1)(B). A lead agency may not make the

required CEQA findings unless the administrative record clearly shows that all uncertainties regarding the mitigation of significant environmental impacts have been resolved.

CEQA requires the lead agency to adopt feasible mitigation measures that will substantially lessen or avoid the Project's potentially significant environmental impacts, Pub. Res. Code §§ 21002, 21081(a), and describe those mitigation measures in the CEQA document. Pub. Res. Code § 21100(b)(3); CEQA Guidelines § 15126.4. A public agency may not rely on mitigation measures of uncertain efficacy or feasibility. *Kings County Farm Bureau*, 221 Cal.App.3d at 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available). "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. CEQA Guidelines § 15364. Mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments. *Id.* at § 15126.4(a)(2).

SWAPE has reviewed the DEIS/DEIR's discussion of air pollution mitigation measures and has identified a number of measures that have been applied at similar solar projects in the Mojave Desert that would reduce the impacts of the project's PM10 and NOx emissions during the Project's multiple-year construction period.

The Project's NOx emissions could be further reduced by BLM and the County requiring the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NOx emissions requirements. Additionally, rather than limiting emission standards applicable to off-road compression-ignition engines and construction vehicles to the Tier 3 California Emission Standards, the agencies should require off-road equipment to meet Tier 4 standards as of January 1, 2015. SWAPE Comment, p. 4. This additional mitigation would reduce NOx emissions from these sources by 90 percent. *Id.*, p. 5. As Mr. Hagemann states:

Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

SWAPE Comment, p. 4. BLM needs to supplement the DEIS to include a discussion of this important mitigation and the County must adopt this feasible mitigation in order to approve the preferred Project.

The mitigations for PM10 also fall short. In addition to the above Tier 4 requirement, which also would reduce PM10 emissions from the relevant sources by as much as 90 percent, the DEIS/DEIR must discuss and, in the case of the County, adopt, additional mitigations that are modeled on the MDAQMD's air pollution control rules, including Rule 401 and 403, which would further reduce the Project's PM10 emissions.<sup>1</sup> SWAPE identifies the following additional, feasible measures:

- Prohibit visible dust from leaving the Project site property line during all construction activities, including trenching and pile-driving;
- Prohibit visible dust concentrations within the Project site of greater than 20 percent opacity, and require regular opacity monitoring and actions to ensure compliance with this opacity limit (pre-watering, water or soil stabilizers, wind barriers); and
- Conduct simultaneous sampling (upwind and downwind of construction activities at the Project boundary) with air sampling equipment to ensure that construction-related (downwind) PM10 levels do not exceed upwind levels by more than 50 micrograms per cubic meter (ug/m3);
  - If downwind PM10 levels exceed the upwind by 50 ug/m3, earth-disturbing activities should cease and not re-start until levels are reduced to less than a 50 ug/m3 differential.

SWAPE Comment, p. 5. Because these measures are plainly feasible and would further reduce PM10 emissions resulting from construction and decommissioning of the Project, they should be considered and recommended in the DEIS/DEIR.

**C. The DEIS/DEIR Fails to Adequately Address the Project's Cumulative Air Pollution Impacts When Considered Together With the Numerous Other Solar Projects Poised for Construction in the Immediate Vicinity.**

Recognizing that several projects may together have a considerable impact, CEQA requires an agency to consider the "cumulative impacts" of a project along with other projects in the area. Pub. Resources Code §21083(b); CEQA Guidelines §15355(b). If a project may have cumulative impacts, the agency must prepare an EIR, since "a project may have a significant effect on the environment if '[t]he possible effects of a project are individually limited but cumulatively considerable.'" *CBE*, 103 Cal.App.4th at 98, 114; *Kings County Farm Bur. v. City of Hanford* (1990) 221 Cal.App.3d 692, 721 ("*Kings Co.*"). It is vital that an agency assess "the environmental damage [that] often occurs incrementally from a variety of small sources . . ."

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<sup>1</sup> The DEIS/DEIR does not mention Rule 401 despite that rule's applicability.

*Bakersfield Citizens For Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214.

Likewise, assessing cumulative impacts is an essential component of environmental review under NEPA. “Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. §1508.7.

**a. The Scope of the DEIS/DEIR’s Cumulative Impact Analysis for Air Quality Impacts is Inconsistent and Unreasonably Constricted.**

At the beginning of its discussion of the Project’s cumulative air pollution impacts, the DEIS/DEIR states that “[t]he geographic scope considered for the Project’s potential cumulative impacts to regional air resources is the MDAB.” DEIS/DEIR, p. 3.2-30. See *also id.* at 3.1-5. However, the ensuing discussion then inconsistently limits its consideration to a handful of projects within a relatively few miles of the Project. DEIS/DEIR, App. A, p. A-16, Figure 3.1-1. See DEIS/DEIR, p. 3.1-9 – 3.1-10. The MDAB extends from the eastern portions of Kern County and Los Angeles County, south to the northern part of Riverside County, and eastward to the Nevada and Arizona borders. See <http://www.arb.ca.gov/pm/pmmeasures/pmch05/mojd05.pdf> (attached as Exhibit C). There are a large number of solar projects proposed throughout the Mojave Desert Air Basin, including a long list of projects in the portion of the Air Basin in Kern and Los Angeles Counties as well as a concentration of very large solar projects in eastern Riverside County. See, e.g. [http://planning.lacounty.gov/assets/upl/project/energy\\_list-map.pdf](http://planning.lacounty.gov/assets/upl/project/energy_list-map.pdf) (attached as Exhibit D); [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN200629\\_20130927T120253\\_Blythe\\_Solar\\_Power\\_Project\\_Staff\\_Assessment\\_Part\\_A\\_Corrected.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN200629_20130927T120253_Blythe_Solar_Power_Project_Staff_Assessment_Part_A_Corrected.pdf). The very short list of projects mentioned in the Project’s DEIS/DEIR does not come close to evaluating or discussing cumulative impacts from renewable energy projects and associated power lines being proposed and approved throughout the Air Basin. The failure of the DEIS to evaluate the cumulative air impacts of all renewable energy development being constructed in the Mojave Desert Air Basin during construction of the project is arbitrary and capricious.

**b. The DEIS/DEIR’s Perfunctory Analysis of Cumulative Air Impacts is Inadequate Pursuant to NEPA and CEQA.**

When considering a project’s cumulative impacts, a DEIS must include “some quantified or detailed information; . . . general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993-94 (9th Cir. 2004); *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1379-80 (9th Cir. 1998). “The analysis must be more

than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects." *Klamath-Siskiyou Wildlands*, 387 F.3d at 993-94. A mere assertion that an environmental factor will be further degraded in a minor or major way does not provide sufficient "objective quantification." *Id.* at 994. Likewise, a tabulated list of other projects in the area including acreage affected is not a sufficient description of the actual environmental effects of those other projects. See *id.* at 994-95. A conclusory presentation does not offer any more than the kind of "general statements about possible effects and some risk" which we have held to be insufficient to constitute a "hard look." *Id.* at 995.

In addition, the DEIS must disclose data underlying its discussion and conclusions. "[W]hile the conclusions of agency experts are surely entitled to deference, NEPA documents are inadequate if they contain only narratives of expert opinions." *Klamath-Siskiyou Wildlands*, 387 F.3d at 996. "Allowing the Forest Service to rely on expert opinion without hard data either vitiates a plaintiff's ability to challenge an agency action or results in the courts second guessing an agency's scientific conclusions. As both of these results are unacceptable, we conclude that NEPA requires that the public receive the underlying environmental data from which a Forest Service expert derived her opinion." *Id.*; *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998). An EIS is "unacceptable if [it is] indecipherable to the public." *Klamath-Siskiyou Wildlands*, 387 F.3d at 996.

Likewise, under CEQA, the CEQA Guidelines specifically direct the County to "define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." CEQA Guidelines, § 15130(b)(3); *Bakersfield Citizens*, 124 Cal.App.4th at 1216. "[I]t is vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them. (Pub. Res. Code, § 21061.)" *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 79. See also *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 723. The EIR's cumulative impacts discussion "should be guided by the standards of practicality and reasonableness," but several elements are deemed "necessary to an adequate discussion of significant cumulative impacts[.]" including "[a] list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency." CEQA Guidelines, § 15130(b); *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899, 928-29.

Despite failing to consider numerous relevant projects emitting PM10 and NOx throughout the Mojave Desert Air Basin, even just considering seven nearby projects, the DEIS acknowledges that the Project's air emission impacts will be cumulatively considerable and then asserts that no other mitigations besides those already selected by the applicant are available. This discussion falls short because it fails to acknowledge the true extent of the cumulative air quality impact by failing to consider numerous other relevant projects and their emissions of PM10 and NOx. Thus, to the



extent the cumulative impacts are so severe, the agency decision-makers and the public would have to consider the no project alternative much more seriously. Likewise, the need for additional mitigation measures, especially in the NEPA process, would be further supported by an accurate discussion of the actual extent of cumulative impacts.

Secondly, additional mitigations are available to reduce the Project's emissions of PM<sub>10</sub> and NO<sub>x</sub>. These include the air pollution mitigations discussed above. Another important mitigation to address cumulative air pollution emissions relates to the timing and phasing of not only this Project but numerous other projects planned or underway in the Air Basin. As SWAPE comments:

Perhaps most important is to quantify the emissions that will stem from the construction of other projects and using those emissions estimates to identify how the construction of the projects might be staged to reduce temporal impacts. The US EPA has commented on the benefit of this approach to prevent violations of air quality standards.

SWAPE Comment, pp. 5-6. By failing to identify the extent of the cumulative air quality impacts of the project's emissions of PM<sub>10</sub> and NO<sub>x</sub> and also failing to discuss and, in the case of CEQA, adopt feasible mitigations that would reduce those impacts, the DEIS/DEIR is arbitrary and capricious and inadequate.

**D. A Right-Of-Way That Fails to Include All Feasible Air Pollution Mitigation Measures Will Be Inconsistent With 43 U.S.C. §1765(a).**

By not discussing the additional feasible air pollution controls discussed above for pollutants already impairing California's air quality standards, a right-of-way for the Project would run afoul of BLM's duties to protect the environment and require compliance with more stringent state standards. 43 U.S.C. §1765(a) requires each right of way to contain terms and conditions to "minimize damage to...wildlife habitat and otherwise protect the environment" and to "require compliance with state standards for... environmental protection... if those standards are more stringent than applicable Federal standards." The standards include state "substantive standards" but not state procedural requirements. *Montana v. Johnson*, 738 F.2d 1074, 1077 (9th Cir. 1984). As the Ninth Circuit has explained, Congress adopted a version of competing FLPMA bills requiring that "BLM comply with, rather than merely consider, federal and state pollution standards." *Columbia Basin Land Protection Ass'n v. Schlesinger*, 643 F.2d 585, 605 (9th Cir. 1981). "This clearly indicates congressional intent to require federal agencies to meet the state's substantive standards for projects under FLPMA." 643 F.2d at 605.

The air quality impacts acknowledged by the DEIS/DEIR indicate that the Project, as conditioned in the manner described in the DEIS/DEIR, cannot meet BLM's duties under 43 U.S.C. §1765(a). The DEIS/DEIR identifies Impact Air-1 as "[c]onstruction and decommissioning of the Proposed Action would generate short-term emissions of criteria air pollutants that could contribute to an existing or projected air quality

violation.” DEIS/DEIR, Table ES-2. Likewise, Impact Air-3 states that “[t]he Proposed Action would generate emissions of criteria air pollutants which could contribute to existing non-attainment conditions and further degrade air quality.” *Id.* By not adopting all mitigations that would reduce the Project’s PM10 and NOx emissions as much as feasible as conditions of the Project, BLM will have violated Section 1765(a)’s fundamental duties when issuing a ROW under FLPMA.

**E. The DEIS/DEIR’s Environmental Baseline for Potential Hazard Materials Is Not Supported by Substantial Evidence and is Arbitrary and Capricious.**

SWAPE has reviewed the Phase I Environmental Site Assessment (“Phase I ESA”) prepared for the Project. As explained by SWAPE, a Phase I ESA includes, among other components established by EPA, an inspection of the project site and interviews of people knowledgeable about the property. The Phase I ESA conducted for the Project did not include an inspection so much as an incomplete site visit. Nor was there a reasonable effort to seek out persons with knowledge of potential hazards at the site. As SWAPE explains, the “inspection” conducted for the site was inadequate: “The Phase I ESA included one day of field reconnaissance. One day of field reconnaissance for a 4,179-acre (6.5 square mile) project is inadequate.” SWAPE Comment, p. 7. “The conduct of an adequate site visit is critical because of the likelihood of finding areas of contamination, including drug labs and illegal dumps, that could not be observed in one day of field reconnaissance” lasting no more than 10 hours of daylight. *Id.* The effort to track down knowledgeable people to interview about the site also appears similarly cavalier. The only interviews were of a gas station owner outside of the Project’s proposed ROW and a BLM staff person who did not appear to have much personal knowledge of the site’s field conditions. *Id.*

Pursuant to CEQA, the lead agency has a responsibility to conduct a reasonable level of investigation in order to prepare an adequate EIR. Likewise, under NEPA, the agency cannot resort to mere speculation but must require sufficient studies from which to gauge a project’s impacts. Because the effort to inspect the Project area was insufficient and knowledgeable persons were not identified, the environmental baseline regarding hazardous material risks is insufficient and, hence, the DEIS/DEIR’s conclusions regarding the absence of such risks is arbitrary and capricious and not supported by substantial evidence.

**F. The DEIS/DEIR Improperly Defers Development of Mitigation Measures to Address the Project’s Groundwater Impacts, Hydrological Impacts, and Wildlife Impacts.**

LIUNA has not had an opportunity to review and provide comments on any measures that the Project may employ to address its potential impacts to groundwater, hydrological, and biological resources impacts. This is because the DEIS/DEIR relies on a future mitigation plans to stand-in for actual mitigation measures. By deferring important mitigation components until after the DEIS/DEIR is completed and approved,

the agencies run afoul of NEPA and CEQA and frustrate any meaningful public input on this likely impact.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309. An agency may only defer the formulation of mitigation measures when it possesses “‘meaningful information’ reasonably justifying an expectation of compliance.” *Sundstrom*, 202 Cal.App.3d at 308; see also *Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only “for kinds of impacts for which mitigation is known to be feasible”).

Under NEPA’s hard look standard, deferral of a discussion of a Project’s mitigation measures also is not appropriate. For example, in *High Sierra Hikers Ass’n v. U.S. Dep’t of Interior*, 848 F.Supp.2d 1036, 1052-54 (N.D. Cal. 2012), the District Court explained that “[t]he agency must utilize the EIS to discuss such mitigation measures in sufficient detail to ensure there has been a fair evaluation of the consequences.” In the EIS, the agency “must perform some assessment of whether the mitigation measures would be effective.” *Id.* at 1056. “[The] assessment must include “an estimate of how effective mitigation measures would be if adopted” or a “reasoned explanation as to why such an estimate is not possible.” *Id.* See *S. Fork Band Council of W. Shoshone of Nevada v. U.S. Dep’t of Interior*, 588 F.3d 718, 727 (9th Cir. 2009).

# **1. The DEIS/DEIR Improperly Defers Development of Mitigation Measures to Address the Project’s Groundwater Impacts.**

The DEIS/DEIR relies on a future Groundwater Monitoring and Mitigation Plan to stand-in for actual mitigation measures. By deferring this important mitigation component until after the DEIS/DEIR is completed and approved, the agencies run afoul of NEPA and CEQA and frustrate any meaningful public input on this likely impact. As SWAPE’s review indicates:

[the DEIS/DEIR, only] offers vague assurances that monitoring will be conducted but does not identify by whom, specifically. The DEIS/DEIR states that groundwater trends will be evaluated but it does not state how. The DEIS/DEIR states that wells and springs will be evaluated for Project impacts but does not include methodology. These critical details are essential, along with enforceable measures in an MOU, if the [Monitoring and Mitigation] Plan is to be effective.

SWAPE Comment, p. 8. SWAPE also identifies the proper response measures necessary for such a Plan to be effective, similar to those adopted by the County in its environmental review of the Cadiz Valley Water Conservation, Recovery, and Storage Project. Where groundwater levels fall below an acceptable level, mitigation measures should include:

Reduction in pumping from Project wells;  
Revision of pumping locations within the Project wellfield; and  
Stoppage of groundwater extraction for duration necessary to correct the predicted impact.

SWAPE Comment, p. 8. The mitigation measures should be included as conditions of the ROW and in an enforceable MOU with the County. SWAPE further recommends the establishment of a Groundwater Stewardship Committee. *Id.* Because of the agencies' improper deferral of mitigation, there is no opportunity for LIUNA and other commenters to see if these and other appropriate measures will actually be required of the Project. As a result, the EIS/DEIR's discussion of the Project's potential groundwater impacts is arbitrary and capricious and deficient as a matter of law.

**2. The DEIS/DEIR Improperly Defers Mitigation of The Project's Hydrological Impacts, Including, For Example, The Likely Significant Impact of Project Fencing on Flows in the Numerous Washes on Site.**

The Project calls for the installation of desert tortoise fencing while at the same time asserting that the Project will have no adverse affect on the site's hydrology, especially in the numerous washes located throughout the Project area. No explanation is provided, either in the project description or the discussion of impacts to water resources, "how the Project would be fenced to prevent ingress of desert tortoises, yet allow egress of storm waters." Cashen Comment, p. 3. Mr. Cashen provides several examples of the conflict that arises when installing desert tortoise fencing in washes, including both the likelihood that the fencing will fail and the obvious impediment to natural flows that could result. Rather than grapple with these conflicting results, the DEIS/DEIR defers the issue into the future, despite acknowledging (albeit in passing) the possible serious impacts on drainage patterns that could result from the fencing measures, as well as other Project features. DEIS/DEIR, p. 3.19-36. Given the presence of numerous washes on the site and the obvious conflict that may result from installing adequate desert tortoise fencing throughout that complex wash system, the potential impacts to water quality as well as to the tortoises from ineffective fencing must be explored in the DEIS/DEIR.

**3. The DEIS/DEIR Improperly Defers Development of Key Mitigation Measures to Address Wildlife Impacts.**

The DEIS/DEIR defers a number of key mitigation plans purporting to address impacts to wildlife, including a Bird and Bat Conservation Strategy, an Avian Monitoring Program, and a raven management plan. Other plans that are apparently in draft form are not included in the appendices or otherwise available on BLM's web site for the Project, including a Desert Tortoise Translocation Plan. As Mr. Cashen explains:

It is premature for the BLM and County to conclude forthcoming plans would reduce impacts to a less-than-significant level, especially because the DEIS/DEIR generally fails to identify fundamental aspects of the plans

(e.g., success criteria, monitoring program, contingency measures). Deferring mitigation plans until after Project approval is additionally problematic because the resource agencies often do not have the resources needed to keep up with the pace of renewable energy development in California. For example, some of the mitigation plans required of the Ivanpah Solar Electric Generating System ("ISEGS") Project have yet to be finalized (e.g., Bighorn Sheep Plan), even though construction of the project began in October 2010.

Cashen Comment, p. 17. All of the mitigations included in these future mitigation plans must be identified and discussed in the DEIS/DEIR.

**G. The DEIS/DEIR's Description of the Environmental Setting for Golden Eagles and Burrowing Owls are Flawed Because Surveys for These Species Did Not Follow Protocols and Were Incomplete.**

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 ("Save Our Peninsula").

Likewise, under NEPA, accurate and complete information regarding the environmental baseline of a Project is key to evaluating a project's impacts. 40 C.F.R. §1500.1(b); 40 C.F.R. §1502.24. "Without establishing the baseline conditions which exist in the vicinity of [a project], there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA." *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). See *Ctr. for Biological Diversity v. Provencio*, 2012 U.S. Dist. LEXIS 50457, at \*60-61 (D.Ariz. 2012). NEPA also requires "up-front disclosures of relevant shortcomings in the data or models." *Lands Council v. Powell*, 395 F.3d 1019, 1032 (9th Cir. 2005).

The DEIS/DEIR fails to disclose the environmental baseline for both golden eagles and for burrowing owls. With regard to golden eagles, as Mr. Cashen points out, the aerial surveys did not adhere to golden eagle inventory protocols because the Project's consultant "did not survey the South Soda Mountains for golden eagle nest sites." Cashen Comment, p. 3. See DEIS/DEIR, p. 3.4-17. See also Biological



Resources Technical Report (“BRTR”), Figure 2.2-4. “This is significant because the Project site is located immediately adjacent to the South Soda Mountains, and there is a high likelihood that any golden eagles nesting in the South Soda Mountains would be adversely affected by the Project.” Cashen Comment, p. 3.

In regard to burrowing owls, the Project’s consultant purported to survey for this sensitive species by piggy-backing on surveys targeting desert tortoises and rare plants. Cashen Comment, p. 4; BRTR, pp. 2-5 and 3-41. As Mr. Cashen explains:

The Applicant’s surveys for burrowing owls did not adhere to the guidelines in CDFW’s 2012 *Staff Report on Burrowing Owl Mitigation*. Instead, data on burrowing owl use of the Project site were obtained through incidental detection of burrowing owls and burrowing owl sign during fall surveys for rare plants and desert tortoises. Although the Biological Resources Technical Report (“BRTR”) acknowledges incidental detections do not replace the requirement for protocol-level surveys, those surveys were never conducted.

Cashen Comment, p. 4. This piggy-backing effort may seriously underestimate the number of burrowing owls at the site “because incidental detection of burrowing owls occurred during fall surveys, the DEIS/DEIR lacks critical information on burrowing owl use of the Project site during the breeding season.” *Id.* In order to present an accurate environmental setting and baseline to the public and the agencies, the DEIS/DEIR should be revised to include complete nest surveys for golden eagles and site-wide protocol surveys for burrowing owls during its spring nesting season.

**H. The DEIS/DEIR Should Identify the Location of Desert Pavement on the Site in Order to Accurately Evaluate and Describe the Project’s Impacts to These Areas.**

Mr. Cashen describes the serious impacts that may result from disturbing areas of desert pavement. Cashen Comment, p. 5. Although mention is made of the presence of desert pavement within the Project area, the DEIS/DEIR’s failure to identify its location or scope makes it impossible for a reviewer to comment effectively on the Project’s impacts to these important desert features. “Although the DEIS/DEIR acknowledges the importance of desert pavement in preventing erosion, it does not quantify or map the extent of desert pavement on the Project site. This precludes the ability to assess the amount of desert pavement that may be disturbed by the Project, and thus, the potential severity of the subsequent erosion.” Cashen Comment, p. 5.

In addition to failing to identify the location and extent of desert pavement in the Project area, the suggested mitigation measures of laying down “temporary mats” to protect desert pavement from disturbance by construction vehicles is neither adequately discussed nor does it appear effective on its face. As Mr. Cashen observes:

The DEIS/DEIR does not provide any evidence that temporary mats are an effective mitigation measure. Google Earth imagery suggests there is an extensive amount of desert pavement on the Project site. Consequently, it does not appear feasible to cover hundreds (potentially thousands) of acres of the Project site with temporary mats to protect the desert pavement from damage from construction vehicles. Moreover, it does not appear feasible to deploy mats (which are presumably heavy) across a remote and vegetated landscape without use of heavy equipment. This issue is confounded because the DEIS/DEIR allows the Applicant to defer the “plan” for the identification, avoidance, and protection of desert pavement until after Project approval. Soil loss (through wind and water erosion) is severe when components that would normally stabilize the soil surface (e.g., rocks, crusts, vegetation) are removed. Because the DEIS/DEIR does not identify a reliable strategy for minimizing impacts to desert pavement, the Project has the potential to result in a substantial amount of erosion and sediment transport into adjacent landscapes.

Cashen Comment, p. 13. The DEIS/DEIR must be significantly revised in order to address this significant impact of the Project and recirculated for public comment.

**I. The DEIS/DEIR’s Assertion That a 100-Foot Buffer Zone Around the Rare Emory’s Crucifixion Thorn Would Mitigate The Project’s Impacts on This Rare Plant is not Supported by Evidence and is Arbitrary.**

Emory’s crucifixion thorn (*Castela emoryi*) is a rare plant occurring at the Project site. The DEIS/DEIR acknowledges the plant’s presence but then concludes that maintaining a 100-foot buffer around any individual plants will prevent the Project from impacting this sensitive species. However, the proposed buffer is considerably smaller than buffer mitigations for this and other sensitive desert plants adopted for other renewable energy projects in the desert. As Mr. Cashen explains:

The DEIS/DEIR lacks any scientific evidence that a 100-foot exclusion area would maintain the ecological processes that Emory’s crucifixion thorn plants depend on for survival. It also does not provide any evidence that 100 feet would sufficiently protect Emory’s crucifixion thorn plants from the numerous indirect impacts identified in the DEIS/DEIR (e.g., altered hydrology, fugitive dust). occurs on the Project site; the next nearest known other population is approximately 20 miles southwest of the Project site. Because Emory’s crucifixion thorn is a relatively rare plant in California, any impacts to the population on the Project site would be significant.

Cashen Comment, p. 5. Mr. Cashen cites to scientific evidence, as well as other environmental reviews, indicating that a minimum buffer of 250-feet is necessary to

protect these and other plant species. *Id.* BLM has required 250-foot buffers around special-status plant populations at both the Ivanpah and Calico Solar project sites. *Id.* Nor does the DEIS/DEIR “provide any success criteria for the proposed mitigation measure (i.e., 100-foot exclusion area), nor does it require a monitoring, reporting, and adaptive management program that ensures the proposed mitigation is effective.” *Id.* Relatedly, the lack of justification for the proposed buffer also calls into question the DEIS/DEIR’s related conclusion that the Project’s impacts to sensitive plants will not have a cumulative impact. For these reasons, the DEIS/DEIR’s conclusion that the Project will not have significant effects, individually or cumulatively, on this and other sensitive plants is not supported by substantial evidence and is arbitrary.

**J. The DEIS/DEIR’s Conclusion That the Project’s Destruction of Golden Eagle Foraging Habitat will not be Significant is Arbitrary.**

The DEIS/DEIR relies on counterintuitive assumptions to claim that the Project will not have significant impacts on golden eagles by destroying a vast stretch of foraging habitat in the Soda Mountain Valley. Although at least two golden eagle nests are known to occur within 10-miles of the Project (despite not looking for any nests in the Soda Mountains), the DEIS/DEIR assumes that because no one has observed an eagle foraging on-site that means eagles are unlikely to forage on-site. See Cashen Comment, p. 7; Biological Technical Resources Report, p. 3-19. It further contends that the valley area is not unique, does not have a concentration of eagle prey, and there is better foraging habitat elsewhere in range of any nesting eagles. No details underlying these conclusions are provided in the DEIR/DEIS or accompanying appendix. More importantly, as Mr. Cashen discusses, these conclusions are incorrect and not supported by evidence:

[T]he BLM and County cannot rely on the lack of observed foraging activity as evidence that impacts to golden eagle foraging habitat would be insignificant. Birds of prey in general are widely spaced, rapid moving, and wide ranging. In addition, raptor movements and activity patterns are highly variable, especially during migration. These factors are especially true for golden eagles, which make them difficult to detect and count. The Applicant’s consultant conducted avian point counts during the spring and fall of 2009, but it did not conduct any focused surveys for foraging golden eagles. Incidental detection of golden eagles during the process of conducting surveys for other species is an ineffective approach for documenting golden eagle use of the Project area (i.e., because it is ineffective to survey for large soaring birds while searching for small birds). This is reflected in USFWS guidelines, which state surveys for eagles and other large birds need to be conducted exclusive of those for small birds.

Cashen Comment, p. 7. In terms of prey base or other foraging opportunities in the area, Mr. Cashen states that:

the DEIS/DEIR has no basis for suggesting the Project site lacks a concentration of prey items. Similarly, the DEIS/DEIR has no basis for stating “[c]omparable or better foraging opportunities [for golden eagles] are *expected* to be available within the surrounding areas.” The Project site contains jackrabbits, squirrels, and other preferred prey for golden eagles. The Applicant’s consultant did not collect any data pertaining to the density of these prey species at the Project site or in the “surrounding areas.”

*Id.* at 7-8. Mr. Cashen highlights the importance of jackrabbits as prey for eagles in the Project area. *Id.* at 8. Lastly, Mr. Cashen notes that the location of the Project in a valley filled with alluvial fan deposits and surrounded by mountains makes it an ideal foraging area for golden eagles. *Id.* The Project’s proposed destruction of almost 40 percent of that valley habitat will significantly impact eagle foraging habitat. The DEIS/DEIR must be supplemented to address this impact after additional surveys are conducted including nest surveys in the Soda Mountains and surveys targeting large raptors. The DEIS/DEIR also must be more forthright about the loss of foraging habitat and substantiate its conclusions with evidence.

**K. The DEIS/DEIR’s Discussion of the Project’s Impacts to Burrowing Owls Fails to Identify and Discuss the Impacts of Relocating Owls, the Project’s Primary Mitigation Measure, Relies on Inadequate Preconstruction Surveys, and Includes Inaccurate Buffer Zone Figures.**

The best available science estimates that a total of only 560 pairs of burrowing owls occur in the Western Mojave Desert. Cashen Comment, p. 10. The Project proposes to destroy the nests of 48 of those pairs, or about 8.6 percent of the total population in the western Mojave Desert. *Id.* Therefore, the Project would affect approximately 8.6% of the burrowing owls (48 pairs) residing in the Western Mojave Desert. The DEIS/DEIR pins its hopes on avoiding impacts to this large percentage of owls in the region by passively relocating the owls. This mitigation plan is neither adequately explained nor are the impacts of relocating owls identified or discussed in the DEIS/DEIR.

The protocols for relocating burrowing owls are not identified in the DEIS/DEIR and the Burrowing Owl Mitigation and Monitoring Plan has been improperly deferred until after completion of the EIS/EIR. This alone makes it impossible to comment on their effectiveness. Additionally, any relocation effort will itself have significant impacts on the relocated burrowing owls:

Although the CDFW has established protocols for the eviction of burrowing owls (“passive relocation”), there is still considerable risk to burrowing owls, especially if passive relocation is not done properly. This conclusion is expressly supported by the CDFW, which has concluded that passive relocation creates potentially significant impacts under CEQA that must be analyzed. According to the CDFW, temporary or permanent

closure of burrows may result in: (a) significant loss of burrows and habitat for reproduction and other life history requirements; (b) increased stress on burrowing owls and reduced reproductive rates; (c) increased depredation; (d) increased energetic costs; and (e) risks posed by having to find and compete for available burrows.

Cashen Comment, p. 9. Mr. Cashen identifies research that demonstrates that “most translocation projects have resulted in fewer breeding pairs of burrowing owls at the mitigation site than at the original site, and that translocation projects generally have failed to produce self-sustaining populations of owls.” *Id.* The DEIS/DEIR fails to identify these significant impacts to the burrowing owl.

Another serious risk posed to burrowing owls is the long period of time – 30-days – between the pre-construction surveys and the initiation of ground-disturbing activities. Cashen Comment, pp. 14-15. CDFW guidelines call for an initial preconstruction survey within the 14 days prior to ground disturbance, followed by a subsequent survey within 24 hours prior to ground disturbance. *Id.* Burrowing owls may recolonize a site within a few days. *Id.* A survey 30-days prior to construction will not protect those returning owls.

In addition, the DEIS/DEIR prohibits disturbance of areas within 650 feet or 500 meters of a burrow during the breeding season (February 1 through August 31). DEIS/DEIR, p. 3.4-54. However, 500 meters is equal to 1,640 feet. The DEIS/DEIR should rely on the correct 1,640 feet radius. Cashen Comment, p. 15.

**L. The DEIS/DEIR Fails to Identify the Project’s Potential Significant Impacts to Desert Kit Fox From Translocations and Disease.**

Mr. Cashen identifies the recent outbreak of canine distemper in desert kit foxes in the Mojave Desert. Cashen Comment, p. 17. “The Project has the potential to exacerbate the risk of kit fox distemper by: (a) stressing resident kit foxes; and (b) displacing kit foxes from their home ranges (which may lead to intermingling of healthy and diseased kit foxes).” *Id.* This is especially true because the Project will require the passive relocation of desert kit foxes. *Id.* Mr. Cashen recommends that the agencies work closely with CDFW to develop take avoidance measures and to address the distemper issue afflicting the desert kit fox population, including a kit fox mitigation monitoring program that has been approved by the CDFW.

**CONCLUSION**

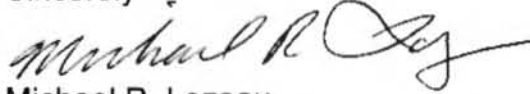
For the foregoing reasons, LIUNA Local 783, and its members, including Lonnie Passmore, and Rodrigo Briones, living in San Bernardino County and areas near the Project urge BLM and the County to make substantive changes to the DEIS/DEIR’s analysis of the Project’s air quality and wildlife impacts and to recirculate the DEIS/DEIR

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for additional public review and comment. LIUNA Local 783 appreciates this opportunity to comment and looks forward to the agencies' responses.

Sincerely

A handwritten signature in black ink, appearing to read "Michael R. Lozeau". The signature is fluid and cursive, with a large, stylized "L" at the end.

Michael R. Lozeau  
Lozeau Drury LLP  
Attorneys for LIUNA Local 783, Lonnie  
Passmore, and Rodrigo Briones

# EXHIBIT A



Technical Consultation, Data Analysis and  
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February 27, 2014

Michael Lozeau  
Lozeau | Drury LLP  
410 12th Street, Suite 250  
Oakland, CA 94607

**Subject: Comments on Soda Mountain Solar Project, San Bernardino County, California**

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Dear Mr. Lozeau:

I have reviewed the November 2013 Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the Soda Mountain Solar Project ("Project"). The Project will produce 358-megawatts of power from photovoltaic solar panels on 4,179 acres of Bureau of Land Management-owned land. Related development would include construction of 14.5 miles of access roads (p. 2-23), relocation of 2.6 miles of roadway (p. 2-23), installation of collector lines, and construction of a substation, switchyard, and buildings which would result in the disturbance of approximately 2,557 acres (four square miles). In addition, "several groundwater wells" (p. ES-1) are to be drilled and permitted separately by San Bernardino County to supply water for the construction and operation of the Project. An on-site temporary mobile concrete batch plant may be needed to supply concrete for the Project.

The DEIS/DEIR fails to adequately disclose and mitigate issues associated with Air Quality, Hazards and Hazardous Waste and Water Resources. Air quality in the Mojave Desert Air Basin will be further degraded by Project construction and the Project does not include all of the feasible mitigation measures that are available to reduce that significant and unavoidable impact. Significant impacts to workers may result from Project construction because of the failure to adequately evaluate the potential for sources of residual chemicals. Groundwater withdrawal may result in impacts to water resources, including springflow, that are not adequately mitigated. A revised DEIS/DEIR is needed to analyze and disclose hazardous waste, air quality, water resource impacts to include mitigation measures that would ensure that any significant impacts from the Project are reduced to the maximum extent feasible.

### **Air Quality**

The DEIS/DEIR states that maximum daily construction-related NO<sub>x</sub>, CO, PM<sub>10</sub> emissions would exceed Mojave Desert Air Quality Management District (MDAQMD) thresholds (p. ES-7). Therefore,

construction and decommissioning of the Proposed Action would generate emissions of criteria air pollutants that would constitute a significant impact (Impact Air-1) and which would further degrade air quality in the Mojave Desert Air Basin. The mitigation that is identified in the DEIS/DEIR in an attempt to address this significant impact is inadequate. A revised DEIS/DEIR needs to be prepared to identify all feasible mitigation.

The Project area is located in the Mojave Desert Air Basin which is designated as a non-attainment area for the state 1-hour and 8-hour ozone standards, the state PM<sub>10</sub> 24-hour standard, and the federal PM<sub>10</sub> 24-hour standard (p. 3.2-3). The southern portion of the Project site is within the Western Mojave Desert Ozone Non-attainment Area which is classified as non-attainment for the federal 8-hour ozone standard and the state PM<sub>2.5</sub> annual standard (p. 3.2-3).

Project construction will further degrade the air quality from the generation of dust (PM) from grading and excavation activities and from the vehicle emissions of NO<sub>x</sub>. The use of a concrete batch plant, if needed, will also produce PM and NO<sub>x</sub>.

The DEIS/DEIR identifies this to be a significant and unavoidable impact, stating:

Impact Air-1: Construction and decommissioning of the Proposed Action would generate short-term emissions of criteria air pollutants that could contribute to an existing or projected air quality violation.

The mitigation identified in the DEIS/DEIR is inadequate to address this impact, consisting only of the following measures: (p.3.2-33)

- Mitigation Measure 3.2-1: The Applicant shall apply water twice daily to all unpaved roads and unpaved parking areas actively used during operation and maintenance, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.
- Mitigation Measure 3.2-2: During construction, vehicles and equipment shall not idle for more than 5 minutes if not moving or performing construction activities. The use of idling vehicle air conditioner units to reduce the effects of heat shall be prohibited unless required for a medical emergency.

In addition to the mitigation measures, the DEIS/DEIR also cites Applicant Proposed Measures (APMs) which, according to the DEIS/DEIR, represent “state of the art emission controls” (p. 3.2-33).

APM 1: The Applicant shall use periodic watering for short-term stabilization of disturbed areas to minimize visible fugitive dust emissions. Use of a water truck to maintain surface moisture on disturbed areas and surface application of water during visible dusting episodes shall be considered sufficient to maintain compliance.

APM 2: The Applicant shall apply BMPs to prevent Project-related visible bulk materials transport (trackout) onto paved surfaces. BMPs may include, but not be limited to, the following:

- a. Use of wheel-washers (or equivalent) installed at all access points and laydown areas where trackout onto paved public roads could occur
- b. Construction of stabilized construction site entrance/exit areas
- c. Implementation of regular street sweeping/cleaning of paved surfaces
- d. Installation of corrugated steel panels at all site exits

APM 3: The Applicant shall cover haul vehicles loaded with earthen materials while operating on publicly maintained paved surfaces.

APM 4: The Applicant shall stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 14 days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions.

APM 5: The Applicant shall cleanup Project-related visible bulk materials transport (trackout) or spills on publicly maintained paved surfaces within 24 hours.

APM 6: The Applicant shall discontinue non-essential earth-moving activities under high wind conditions when wind speeds exceed 25 miles per hour and those activities result in visible dust plumes. All grading activities shall be suspended when wind speeds are greater than 30 miles per hour.

APM 7: The Applicant shall limit the speed of vehicles traveling on unpaved roads and disturbed areas to 15 miles per hour.

APM 8: The Applicant shall apply water to all unpaved roads and unpaved parking areas actively used during construction, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.

APM 9: The Applicant shall use off-road construction diesel engines that meet the Tier 3 California Emission Standards for Off-road Compression-Ignition Engines unless such engine is unavailable for a particular item of equipment. If a Tier 3 engine is unavailable, that engine shall be equipped with retrofit controls providing nitrogen oxides and particulate matter emissions equivalent to a Tier 3 engine.

APM 10: The Applicant shall apply Level 3 diesel particulate filters to diesel engines of off-road construction equipment.

The DEIS/DEIR concludes that no additional emissions controls are available to address the significant impact to air quality, stating:

There are no additional feasible mitigation measures that could reduce the impact to less than significant; therefore, this impact would be significant and unavoidable. For the reasons



discussed in Section 3.2.7, this impact would be cumulatively considerable for NOx and PM10, but not for CO.

The DEIS/DEIR fails to more thoroughly consider additional mitigation, both at the Project level and on a cumulative basis, to address what are identified as significant and unavoidable impacts to the already degraded air quality in the vicinity of the Project. A revised DEIS/DEIR should be prepared to consider the following mitigation measures both at the Project level and for cumulative impacts.

### Project-Level Mitigation Measures to be Considered

#### *NOx*

Mitigation for NOx emissions should include consideration and adoption of the following measures that have been proposed in other recent CEQA documents where NOx has been estimated to exceed air quality thresholds.<sup>1</sup>

- For grading and trenching activities, the project operator shall reduce exhaust emissions during construction and, in particular, emissions of NOx, when using construction equipment and vehicles by implementing the following measures:
  - Require the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NOx emissions requirements.
  - The following note shall be included on all grading plans: During project construction, all internal combustion engines/construction, equipment operating on the project site shall meet U.S. Environmental Protection Agency-Certified Tier 3 emissions standards, or higher according to the following:
    - (i) January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 off-road emissions standards.
    - (ii) Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

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<sup>1</sup> September 2013 Draft Environmental Impact Report Fremont Valley Preservation Project, [http://www.co.kern.ca.us/planning/pdfs/eirs/fremont\\_solar/fremont\\_solar\\_deir\\_vol1.pdf](http://www.co.kern.ca.us/planning/pdfs/eirs/fremont_solar/fremont_solar_deir_vol1.pdf), p. 4.3-33

These measures are more stringent and prescriptive than those measures identified in the DEIS/DEIR in APM 9 which states that Tier 3 standards be met “unless such engine is unavailable for a particular item of equipment” and which allows for retrofits “equivalent to a Tier 3 engine” (DEIS/DEIR, p. 3.2-15). The U.S. EPA has affirmed the use of Tier 4 engines, in commenting on a Draft Environmental Impact Statement prepared for a renewables project in Kern County.<sup>2</sup> The EPA stated that use of such engines had the potential for reducing NOx (and PM10 emissions) by 90% as compared to using Tier 3 technology. A revised DEIS/DEIR should require the use of engines meeting Tier 4 emissions standards after January 1, 2015, consistent with other renewables projects.

### *PM10*

Mitigation for PM10 should also include consideration of all feasible measures. The measures listed below are complimentary to the mitigation measures and the APMs identified in the DEIS/DEIR or are more rigorous. The measures below have been identified in the mitigation of emissions from renewable energy projects in other air districts<sup>3</sup> and should be considered and adopted to further reduce Project emissions:

- Prohibit visible dust from leaving the Project site property line during all construction activities, including trenching and pile-driving;
- Prohibit visible dust concentrations within the Project site of greater than 20 percent opacity, and require regular opacity monitoring and actions to ensure compliance with this opacity limit (pre-watering, water or soil stabilizers, wind barriers); and
- Conduct simultaneous sampling (upwind and downwind of construction activities at the Project boundary) with air sampling equipment to ensure that construction-related (downwind) PM10 levels do not exceed upwind levels by more than 50 micrograms per cubic meter (ug/m3);
  - If downwind PM10 levels exceed the upwind by 50 ug/m3, earth-disturbing activities should cease and not re-start until levels are reduced to less than a 50 ug/m3 differential.

Also, to reduce PM emissions, the DEIS/DEIR should require the use of Tier 4 diesel engine technology. Use of such engines was cited by the US EPA as having the potential for reducing PM10 emissions by 90% as compared to using Tier 3 technology.<sup>4</sup>

### *Mitigation Measures to be Considered to Address Cumulative Impacts*

Construction-related and decommissioning-related emissions associated with the Project are estimated to exceed the MDAQMD significance thresholds for NOx and PM10. The DEIS/DEIR concludes that NOx and PM10 emissions increases would be cumulatively considerable and would result in a significant cumulative impact relative to potential exceedences of AAQs for ozone and PM10 (see Section 3.2.7). Believing that all mitigation measures have been explored, the DEIS/DEIR, concludes:

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<sup>2</sup> U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

<sup>3</sup> AVAQMD Rule 403(D), “Dust Control Plan,”

<http://www.avagmd.ca.gov/Modules/ShowDocument.aspx?documentid=867>

<sup>4</sup> U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

There is no additional feasible mitigation beyond APMs 1 through 10 and Mitigation Measure 3.2-2 that could reduce the impact to less than significant; therefore, the short-term cumulative impact would be significant and unavoidable.

Additional measures are available to mitigate cumulative impacts on air quality. Perhaps most important is to quantify the emissions that will stem from the construction of other projects and using those emissions estimates to identify how the construction of the projects might be staged to reduce temporal impacts. The US EPA has commented on the benefit of this approach to prevent violations of air quality standards.<sup>5</sup>

A revised DEIS/DEIR should compile cumulative emissions data from all projects identified in Table 3.1-3, by month, where construction would overlap with the Project. From use of this data, a phased construction schedule, for projects that will undergo construction concurrently, should be derived so that violations of local, state or federal air quality regulations will not result. Consistent with US EPA's recommendations, the Project should be scheduled for constructed in light of the other planned construction activities to ensure air quality standards are not exceeded.

### Hazards and Hazardous Materials

A Phase I Environmental Site Assessment (ESA) was prepared in May 2013 to evaluate the potential for hazardous environmental conditions to exist at the Project site.<sup>6</sup> Phase I ESAs are conducted to identify the presence of "recognized environmental conditions," defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.<sup>7</sup> If RECs are identified, then a Phase II ESA is typically conducted, which includes the collection of soil, soil vapor and groundwater samples, as necessary, to identify the extent of contamination and the need for cleanup to reduce exposure potential to the public.

Standards for performing a Phase I ESA have been established by the US EPA and the American Society for Testing and Materials Standards (ASTM)<sup>8</sup> and include the following steps:

- a review of all known sites in the vicinity of the subject property that are on regulatory agency databases undergoing assessment or cleanup activities;
- an inspection;
- interviews with people knowledgeable about the property; and
- making recommendations for further actions to address potential hazards.

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<sup>5</sup> U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

<sup>6</sup> Panorama Environmental, Inc., 2013. Phase I Environmental Site Assessment, Soda Mountain Solar Project, BLM Case No. CACA 49584, May 2013

<sup>7</sup> Ibid.

<sup>8</sup> <http://www.astm.org/Standards/E1527.htm>

The inspection component of the Phase I ESA was inadequate. The Phase I ESA included one day of field reconnaissance. One day of field reconnaissance for a 4,179-acre (6.5 square mile) Project area is inadequate. The conduct of an adequate site visit is critical because of the likelihood of finding areas of contamination, including drug labs and illegal dumps, that could not be observed in one day of field reconnaissance, December 13, 2012, a day when there was a maximum of 10 hours of daylight.

The DEIS/DEIR should be revised to include a new Phase I ESA that includes an adequate site inspection, one that would allow for a full evaluation of potentially hazardous site conditions, including the identification of areas of refuse and building debris dumping, remnants of clandestine drug labs, or areas of burn ash from uncontrolled burning, all conditions which may be found in remote desert locations.

The DEIS/DEIR should also include an interview with on-the-ground knowledge of the site. The Phase I included an interview only with a gas station owner outside the Project right of way and with a Bureau of Land Management representative who did not appear to be knowledgeable with field conditions at the Project site.<sup>9</sup> A new Phase I ESA should be prepared to include a report with interviews of people who have a greater degree of familiarity of the Project site.

## Water Resources

The Project will require the consumption of up to 480 acre-feet of groundwater during construction and 31.4 acre-feet per year during operation. To mitigate these impacts (Mitigation Measure 3.19-3) the DEIS/DEIR requires the preparation of a Groundwater Monitoring and Mitigation Plan for approval by San Bernardino County prior to issuance of a groundwater well permit (to be the subject of a separate CEQA action). Delaying the preparation of the Plan until following approval of the Project is deferred mitigation. A revised DEIS/DEIR should be prepared to include the Plan and an agreement with the County of San Bernardino to limit impacts of groundwater withdrawals, consistent with other projects in the County. For example, the Final Environmental Impact Report for the Cadiz Valley Water Conservation, Recovery, and Storage Project, also in San Bernardino County, included a Groundwater Monitoring and Mitigation Plan.<sup>10</sup> The inclusion of the Groundwater Monitoring and Mitigation Plan for the Cadiz project is in stark contrast with the Project DEIS/DEIR which defers the preparation of such a plan until after approval.

A Groundwater Monitoring and Mitigation Plan is essential for inclusion in a revised DEIS/DEIR because of the potential to deplete groundwater quantity and because of the potential to impact important water resources, such as Soda Springs at Zzyzx, California. Such a plan was included for the Cadiz project for the same reasons, to protect groundwater resources and to protect springflow dependent on groundwater.

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<sup>9</sup> Panorama Environmental, Inc., 2013. Phase I Environmental Site Assessment, Soda Mountain Solar Project, BLM Case No. CACA 49584, May 2013, p. 5-1.

<sup>10</sup> Cadiz Valley Water Conservation, Recovery, and Storage Project Final EIR, July 2012, p. 4.9-1

Additionally, the Cadiz project included an MOU with the County of San Bernardino to limit the drawdown of groundwater. If groundwater levels were to fall below an established level, then the following measures would be implemented:

- Reduction in pumping from Project wells;
- Revision of pumping locations within the Project wellfield; and
- Stoppage of groundwater extraction for duration necessary to correct the predicted impact.<sup>11</sup>

No such safeguards, to be memorialized in an MOU with the County, are included in the DEIS/DEIR. Instead the DEIS/DEIR, under Mitigation Measure 3.19-3, offers vague assurances that monitoring will be conducted but does not identify by whom, specifically. The DEIS/DEIR states that groundwater trends will be evaluated but it does not state how. The DEIS/DEIR states that wells and springs will be evaluated for Project impacts but does not include methodology. These critical details are essential, along with enforceable measures in an MOU, if the Plan is to be effective.

Instead of a broad outline for a Groundwater Monitoring and Mitigation Plan, a revised DEIS/DEIR should be prepared to include the Plan so that the public can review the adequacy of the provisions to protect groundwater levels and springflow. As in the Cadiz project, a Groundwater Stewardship Committee should be convened,<sup>12</sup> to be constituted by independent professionals and academics, to ensure the Plan is formulated correctly and is executed to the satisfaction of the committee. An MOU with San Bernardino County should also be included in the DEIS/DEIR to ensure the enforceability of the Groundwater Monitoring and Mitigation Plan.

Sincerely,



Matt Hagemann, P.G., C.Hg.

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<sup>11</sup> Cadiz Valley Water Conservation, Recovery, and Storage Project GMMMP, p. 92

<sup>12</sup> Cadiz Valley Water Conservation, Recovery, and Storage Project Final EIR, July 2012, p. 4.9-60





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**Geologic and Hydrogeologic Characterization**  
**Industrial Stormwater Compliance**  
**CEQA Review**  
**Investigation and Remediation Strategies**  
**Litigation Support and Testifying Expert**

**Education:**

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

**Professional Certification:**

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

**Professional Experience:**

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – present;
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

**Partner, SWAPE:**

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

**Executive Director:**

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

**Hydrogeology:**

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

### **Policy:**

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

### **Geology:**

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

### **Teaching:**

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt currently teaches Physical Geology (lecture and lab) to students at Golden West College in Huntington Beach, California.

### **Invited Testimony, Reports, Papers and Presentations:**

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

**Hagemann, M.F.**, 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

**Hagemann, M.F.**, 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.



Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

**Hagemann, M.F.**, 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

**Hagemann, M.F.**, 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

**Hagemann, M.F.**, 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

**Hagemann, M.F.**, 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

**Hagemann, M.F.**, 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

**Hagemann, M.F.**, 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

**Hagemann, M.F.**, and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

**Hagemann, M.F.**, 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

**Hagemann, M.F.**, 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

**Hagemann, M.F.**, and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

**Hagemann, M.F.**, Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

**Hagemann, M. F.**, Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

**Hagemann, M.F.**, 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

**Hagemann, M.F.** and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

**Hagemann, M.F.**, 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

**Hagemann, M.F.**, 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

# EXHIBIT B

March 3, 2014

Mr. Michael Lozeau  
Lozeau-Drury, LLP  
410 12<sup>th</sup> Street, Suite 250  
Oakland, CA 94607

**Subject: Comments on the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report prepared for the Soda Mountain Solar Project**

This letter contains my comments on the Draft Plan Amendment, Draft Environmental Impact Statement and Draft Environmental Impact Report (hereafter referred to as the “DEIS/DEIR”) prepared for the Soda Mountain Solar Project (“Project”). Soda Mountain Solar, LLC (“Applicant”) proposes to construct, operate, maintain, and decommission a 358-megawatt (MW) photovoltaic (PV) energy generation facility on approximately 4,559 acres of public land managed by the Bureau of Land Management (“BLM”). The Project includes the construction and operation of solar arrays, access roads, collector lines, a substation, a switchyard, ancillary buildings and other infrastructure. The Project would result in the disturbance of approximately 2,557 acres of relatively undisturbed desert land in the Mojave Desert, approximately 6 miles southwest of Baker, California. The Project requires an amendment to the California Desert Conservation Area Plan, a Right-of-Way grant from the BLM, and approval of well permits by the County of San Bernardino (“County”).

I have served as a biological resources expert for over 80 projects, the majority of which have been renewable energy facilities in the Mojave and Sonoran Deserts. My experience and scope of work in this regard has included assisting various clients with evaluations of biological resource issues, reviewing environmental compliance documents prepared pursuant to the California Environmental Quality Act (“CEQA”) and the National Environmental Policy Act (“NEPA”), submitting written comments in response to CEQA and NEPA documents, and testifying as an expert witness before the California Energy Commission and California Public Utilities Commission. My educational background includes a B.S. in Resource Management from the University of California at Berkeley, and a M.S. in Wildlife and Fisheries Science from the Pennsylvania State University. A true and correct copy of my current curriculum vitae is attached hereto.

I have gained particular knowledge of the biological resource issues associated with the Project through my work on numerous other renewable energy projects in the region. The comments herein are based on my review of the environmental documents prepared for the Project, a review of scientific literature pertaining to biological resources known to occur in the Project area, consultations with other biological resource experts, and the knowledge and experience I have acquired during more than 21 years of working in the field of natural resources management.

## ALTERNATIVES

The DEIS/DEIR analyzes the Proposed Action (A), three additional action alternative (B, C, and D), and three no action alternatives (E, F, and G). The proposed action alternatives reduce the footprint of the disturbed area through the removal of identified solar arrays, but do not evaluate different potential site locations. The DEIS/DEIR indicates more than 20 potential project sites were evaluated by the Applicant, but many were eliminated from detailed review due to insufficient size, distance to transmission lines, greater slopes, access limitations, and other factors.<sup>1</sup> An additional four remaining sites were rejected from further consideration because they were located in Desert Wildlife Management Areas (DWMA) designated to protect desert tortoise. The Proposed Action alternative overlaps a high suitability habitat area for desert tortoise, and impedes wildlife access to several important crossing structures. The crossing structures not only provide linkages for populations of desert tortoise and other wildlife species, but they allow the safe passage for animals across Interstate 15 (“I-15”), which poses a significant mortality risk.

Although the BLM and County evaluated three alternative configurations of the Project (several reduced acreage alternatives), they failed to evaluate an alternative that would have configured the Project in areas with lower tortoise habitat quality/suitability or reduced threats to wildlife movement and population viability.

The DEIS/DEIR generally fails to justify the selection of the Proposed Action. According to the DEIS/DEIR:

These potential site alternatives would have responded to the BLM’s purpose and need, which as stated in Section 1.2.1 is to respond to the Applicant’s application under Title V of the FLPMA for a ROW grant to construct, operate, maintain, and decommission a solar photovoltaic (PV) facility on public lands in compliance with FLPMA, BLM ROW regulations, applicable federal laws, and management and policy objectives. However, these potential site alternatives were rejected from detailed review because they were not within close proximity to transmission infrastructure, could not be implemented feasibly for technical or other reasons, their development for solar use would have been inconsistent with the basic policy objectives for the management of the area, and their implementation would not avoid or substantially lessen any significant effects of the Project.<sup>2</sup>

The BLM/County does not provide any data to support their choice of the Proposed Action as the preferred alternative. Furthermore, the Applicant does not provide any information that determines the distance from current infrastructure at which a project location would be considered “feasible,” which appears to be a key factor in the decision of project siting.

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<sup>1</sup> DEIS/DEIR, p. 2-39.

<sup>2</sup> *Ibid.*



## PROJECT DESCRIPTION

### Project Fencing

Desert washes are abundant and well distributed across the Project site.<sup>3</sup> The DEIS/DEIR does not explain how the Project would be fenced to prevent ingress of desert tortoises, yet allow egress of storm waters. At least one tortoise was “lost” following the Ft. Irwin translocation project, apparently as a result of a wash carving out space beneath the fence lining. In addition, a recent press release issued by the National Park Service documented the performance of a pedestrian fence installed by the U.S. Army Corps of Engineers and U.S. Department of Homeland Security. Following a summer storm event, the fence failed several performance criteria related to hydrology despite the U.S. Border Control’s Final Environmental Assessment, which had concluded the fence would “not impede the natural flow of water.” The Ft. Irwin and National Park Service events highlight the problems associated with fencing in desert wash systems; the need for information on how the Applicant intends to mitigate flows that may impact fencing; and the provision of a more rigorous monitoring and maintenance schedule for tortoise exclusion fencing at the Project site.

## EXISTING CONDITIONS

### Wildlife

#### GOLDEN EAGLE

The DEIS/DEIR states: “BioResources Consultants, Inc. performed aerial surveys for golden eagle in March and May 2011, encompassing all lands within a 10-mile radius of the requested Project ROW (BioResources Consultants, Inc., 2011). Survey methods conformed to guidelines provided in the *Interim Golden Eagle Inventory and Monitoring Protocols; and other Recommendations* (Pagel, et al., 2010).”<sup>4</sup> These statements are incorrect. As the DEIS/DEIR acknowledges, BioResources Consultants, Inc. did not survey the South Soda Mountains for golden eagle nest sites.<sup>5</sup> This is significant because the Project site is located immediately adjacent to the South Soda Mountains, and there is a high likelihood that any golden eagles nesting in the South Soda Mountains would be adversely affected by the Project.

The U.S. Fish and Wildlife Service (“USFWS”) has established *minimum* inventory and monitoring efforts that “are essential components” to avoiding and minimizing disturbance and other kinds of take of golden eagles.<sup>6</sup> The USFWS reports “[t]hese field efforts are the mutual responsibility of agencies authorizing activities and their permittees.”<sup>7</sup> I concur with the USFWS that inventory data are essential to evaluating the impacts of a proposed activity and for avoiding and minimizing take of eagles—especially considering the precipitous decline of golden eagles in southwestern California. Consequently, data that conform to the minimum

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<sup>3</sup> *Ibid*, Figure 3.3-2.

<sup>4</sup> *Ibid*, p. 3.4-3.

<sup>5</sup> *Ibid*, p. 3.4-17. See also BRTR, Figure 2.2-4.

<sup>6</sup> Pagel JE, DM Whittington, GT Allen. 2010 Feb. Interim Golden Eagle inventory and monitoring protocols; and other recommendations. Division of Migratory Birds, United States Fish and Wildlife Service. p. 2.

<sup>7</sup> *Ibid*.

inventory requirements specified by the USFWS are fundamental to evaluating Project impacts to golden eagles and the adequacy of the mitigation measures proposed in the DEIS/DEIR.

## BURROWING OWL

The Applicant's surveys for burrowing owls did not adhere to the guidelines in CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*.<sup>8</sup> Instead, data on burrowing owl use of the Project site were obtained through incidental detection of burrowing owls and burrowing owl sign during fall surveys for rare plants and desert tortoises.<sup>9</sup> Although the Biological Resources Technical Report ("BRTR") acknowledges incidental detections do not replace the requirement for protocol-level surveys, those surveys were never conducted.<sup>10</sup> Moreover, because incidental detection of burrowing owls occurred during fall surveys, the DEIS/DEIR lacks critical information on burrowing owl use of the Project site during the breeding season.

Because the Applicant's consultant failed to implement the CDFW survey protocol, the BLM and County lack the information needed to fully disclose and evaluate Project impacts to burrowing owls, and perhaps more importantly, to devise effective mitigation. This sentiment is emphasized in CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*, which states:

Adequate information about burrowing owls present in and adjacent to an area that will be disturbed by a project or activity will enable the Department, reviewing agencies and the public to effectively assess potential impacts and will guide the development of avoidance, minimization, and mitigation measures.<sup>11</sup>

I concur with the CDFW in this regard. To ensure an adequate impact assessment; develop clear and effective avoidance and minimization measures; and formulate appropriate mitigation measures, the BLM and County must require surveys that adhere to the guidelines provided in the CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*.<sup>12</sup> Results of those surveys should be issued in a revised DEIS/DEIR. Deferral of protocol-level survey results until after certification of the EIS/EIR precludes the resource agencies and public from understanding the extent of Project impacts on burrowing owls, and from vetting the adequacy of the proposed mitigation measures.

## ENVIRONMENTAL IMPACTS ANALYSIS

### Desert Pavement

Desert pavement is a desert surface that is covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size. Desert pavement is very stable and it protects the soil from wind and water erosion. However, underneath the desert pavement is a layer of extremely wind-erodible, wind-derived material, sometimes meters thick. As a result,

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<sup>8</sup> CDFG. 2012 Mar 7. Staff Report on Burrowing Owl Mitigation. Available at: <[www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf)>.

<sup>9</sup> BRTR, pp. 2-5 and 3-41.

<sup>10</sup> BRTR, p. 2-5, footnote 2 and Table 2.2-1.

<sup>11</sup> CDFG. 2012 Mar 7. Staff Report on Burrowing Owl Mitigation. Available at: <[www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf)>.

<sup>12</sup> *Ibid*, p. 1 and Appendix D.

anthropogenic disturbance to desert pavement can have profound consequences.

Once the desert crust or pavement is removed (or damaged), sand may be blown several kilometers downwind, resulting in an area of indirect disturbance that can exceed the directly disturbed area by several-fold. For example, Okin et al. (2001) reported that 3,000 ha of land directly disturbed would be expected to indirectly disturb an additional 3,000 to 9,000 ha of land. The encroachment of blowing sand into adjacent shrublands has dramatic consequences for the landscape. Field observations indicate that blowing sand abrades plants, resulting in leaf stripping and damage to the cambium and therefore to the plant's ability to distribute and use water. Young plants are especially vulnerable to the effect of blowing sand as they lack woody tissue. This results in the suppression of revegetation in bare areas and the loss of vegetation on adjacent lands.

Desert pavement occurs on the Project site.<sup>13</sup> Although the DEIS/DEIR acknowledges the importance of desert pavement in preventing erosion, it does not quantify or map the extent of desert pavement on the Project site.<sup>14</sup> This precludes the ability to assess the amount of desert pavement that may be disturbed by the Project, and thus, the potential severity of the subsequent erosion.

### **Emory's Crucifixion Thorn**

Emory's crucifixion thorn (*Castela emoryi*) occurs on the Project site; the next nearest known other population is approximately 20 miles southwest of the Project site.<sup>15</sup> Because Emory's crucifixion thorn is a relatively rare plant in California, any impacts to the population on the Project site would be significant.

The DEIS/DEIR requires 100-foot exclusion areas around Emory's crucifixion thorn plants on the Project site.<sup>16</sup> The DEIS/DEIR lacks any scientific evidence that a 100-foot exclusion area would maintain the ecological processes that Emory's crucifixion thorn plants depend on for survival. It also does not provide any evidence that 100 feet would sufficiently protect Emory's crucifixion thorn plants from the numerous indirect impacts identified in the DEIS/DEIR (e.g., altered hydrology, fugitive dust).<sup>17</sup>

The proposed 100-foot buffer around Emory's crucifixion thorn plants is considerably smaller than what has been required for other solar projects in the Mojave Desert. Analysis by the Conservation Biology Institute (2000) indicates a buffer of *at least* 250 feet is required to protect special-status plant species in southern California.<sup>18</sup> This minimum buffer distance has been incorporated as a requirement for other solar energy projects in the Mojave Desert. For example, the BLM and California Energy Commission ("CEC") required 250-foot buffers around special-

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<sup>13</sup> DEIS/DEIR, p. 3.4-10.

<sup>14</sup> *Ibid*, p. 3.7-15.

<sup>15</sup> *Ibid*, p. 3.3-8.

<sup>16</sup> *Ibid*, p. 3.3-35.

<sup>17</sup> *Ibid*, pp. 3.3-24 and -25.

<sup>18</sup> Conservation Biology Institute. 2000. Review of potential edge effects on the San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). Unpublished report prepared for Ahmanson Land Company, West Covina, California, by CBI, San Diego California.

status plant populations at both the Ivanpah and Calico Solar project sites. Indeed, the CEC concluded that “[p]lant occurrences that are not protected from project activities by a 250-foot buffer will not be considered protected.”<sup>19</sup> Moreover, the BLM and CEC acknowledged that there is very little information on the buffer size(s) needed to protect plants from indirect impacts, and that their requirement for a 250-foot buffer should be viewed as an experimental approach that requires monitoring, and potentially, adaptive management. The DEIS/DEIR does not provide any success criteria for the proposed mitigation measure (i.e., 100-foot exclusion area), nor does it require a monitoring, reporting, and adaptive management program that ensures the proposed mitigation is effective. As a result, the DEIS/DEIR has no basis for concluding Project impacts to special-status plant species would be less-than-significant.

## **Cumulative Effects**

The DEIS/DEIR provides inconsistent information on the geographic scope for cumulative effects analysis. It first states: “the [cumulative effects] analysis considers potential effects to vegetation resources and waters of the State, with the analysis generally concentrating on such resources in the I-15 corridor, Soda Mountain valley, and the Soda Mountain range and adjacent mountain ranges in eastern San Bernardino County.”<sup>20</sup> However, the DEIS/DEIR subsequently suggests that the cumulative effects analysis was limited to a 10-mile radius around the Project site.<sup>21</sup>

The DEIS/DEIR concludes development projects in the cumulative effects area would remove habitat for many special-status plant species and cacti, and that the loss of this habitat is anticipated to result in substantial cumulative impacts on populations of many special-status plant species and cacti.<sup>22</sup> However, the DEIS/DEIR subsequently concludes that the implementation of Mitigation Measures 3.3-2 (vegetation best management practices) and 3.3-3 (special-status plant species and cacti impact avoidance and minimization) would reduce the Project’s contribution to cumulative impacts on cacti and special-status plants.<sup>23</sup> The DEIS/DEIR’s conclusion is unjustified because the proposed mitigation measures do not mitigate the stated impact (i.e., habitat loss).

## **Wildlife**

### **GOLDEN EAGLE**

Golden eagles are protected under Fish and Game Code Section 3511 and the federal Bald and Golden Eagle Protection Act (“Eagle Act”). California law prohibits take of golden eagles, and the USFWS requires a permit to be issued for take of bald or golden eagles where the taking is associated with, but not the purpose of the activity, and cannot be practicably avoided. Take includes causing a decrease in golden eagle productivity by substantially interfering with normal

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<sup>19</sup> California Energy Commission. 2010 Jul. Supplemental Staff Assessment for the Calico Solar Project. p. C.2-53.

<sup>20</sup> DEIS/DEIR, p. 3.3-30.

<sup>21</sup> *Ibid*, p 3.3-31.

<sup>22</sup> *Ibid*, p 3.3-32.

<sup>23</sup> *Ibid*.

breeding, feeding, or sheltering behavior.<sup>24</sup>

The Project site provides foraging habitat for golden eagles. The loss of foraging habitat used by breeding birds can lead to reproductive failure and the abandonment of nesting territories. For golden eagles, the USFWS considers the loss of foraging habitat within 10 miles of a golden eagle nest site to be a potentially significant impact.<sup>25</sup> There are at least two golden eagle nest sites within 10 miles of the Project site.<sup>26</sup>

The DEIS/DEIR provides the following analysis of Project impacts to golden eagles:

Foraging activity has not been observed on the site and findings suggest that the site experiences infrequent foraging use by eagles. The potential golden eagle foraging habitat that would be disturbed or removed by development of the Project is neither unique nor limiting on the landscape, and does not represent a known prey concentration. Comparable or better foraging opportunities are expected to be available within the surrounding areas. For these reasons, development and operation of the Project is not expected to disturb the foraging of any eagle pairs located within 10 miles of the Project site.<sup>27</sup>

This assessment is entirely indefensible for several reasons.

First, the absence of evidence is not evidence of absence. Consequently, the BLM and County cannot rely on the lack of observed foraging activity as evidence that impacts to golden eagle foraging habitat would be insignificant. Birds of prey in general are widely spaced, rapid moving, and wide ranging.<sup>28</sup> In addition, raptor movements and activity patterns are highly variable, especially during migration.<sup>29</sup> These factors are especially true for golden eagles, which make them difficult to detect and count.<sup>30</sup> The Applicant's consultant conducted avian point counts during the spring and fall of 2009, but it did not conduct any focused surveys for foraging golden eagles. Incidental detection of golden eagles during the process of conducting surveys for other species is an ineffective approach for documenting golden eagle use of the Project area (i.e., because it is ineffective to survey for large soaring birds while searching for small birds).<sup>31</sup> This is reflected in USFWS guidelines, which state surveys for eagles and other large birds need to be conducted exclusive of those for small birds.<sup>32</sup>

Second, the DEIS/DEIR has no basis for suggesting the Project site lacks a concentration of prey items.<sup>33</sup> Similarly, the DEIS/DEIR has no basis for stating "[c]omparable or better foraging

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<sup>24</sup> Pagel JE, DM Whittington, GT Allen. 2010 Feb. Interim Golden Eagle inventory and monitoring protocols; and other recommendations. Division of Migratory Birds, United States Fish and Wildlife Service.

<sup>25</sup> *Ibid.*, p. 2.

<sup>26</sup> DEIS/DEIR, p 3.4-39.

<sup>27</sup> *Ibid.*

<sup>28</sup> Fuller MR, JA Mosher. 1981. Methods of Detecting and Counting Raptors. *Studies in Avian Biology* 6:235-246.

<sup>29</sup> *Ibid.*

<sup>30</sup> *Ibid.*

<sup>31</sup> U.S. Fish and Wildlife Service. 2011 Jan. Draft Eagle Conservation Plan Guidance. Appendix C: Stage 2—Site-Specific Assessment Recommended Methods and Metrics.

<sup>32</sup> *Ibid.* p. 55.

<sup>33</sup> DEIS/DEIR, p. 3.4-39. [emphasis added].

opportunities [for golden eagles] are *expected* to be available within the surrounding areas.”<sup>34</sup> The Project site contains jackrabbits, squirrels, and other preferred prey for golden eagles.<sup>35</sup> The Applicant’s consultant did not collect any data pertaining to the density of these prey species at the Project site or in the “surrounding areas.”

Jackrabbits in particular are an important prey species for eagles in the American Southwest. Black-tailed jackrabbits (*Lepus californicus*) occur on the Project site. In California, black-tailed jackrabbits are abundant at lower elevations in herbaceous and *desert-shrub areas* and open, early stages of forest and chaparral habitats.<sup>36</sup> Black-tailed jackrabbits use shrubs for cover and as a source of food.<sup>37</sup> They eat creosote bush and other plant species that are abundant on the Project site.<sup>38</sup> Jackrabbits are not as well adapted to live on steep slopes, and on bare and rocky terrain, such as what occurs in the Soda Mountains.<sup>39</sup> Similarly, they occur in low abundance in loose sand communities (e.g., south of the Project site) and at dry lakes (e.g., Soda Lake and Cronese Lake) due to the lack of cover and forage. Because golden eagles are relatively intolerant of human disturbance, the Razor Off-Highway Vehicle Area (south of the Project site) does not provide good foraging habitat for eagles.

Finally, the Project site is located within an intermontane desert valley composed of alluvial fan deposits and surrounded by the Soda Mountains.<sup>40</sup> This juxtaposition of landforms provides ideal conditions for golden eagles, which prefer rugged terrain for nesting and low-density shrub habitats for foraging.<sup>41</sup> The proposed Project ROW would cover approximately 38 percent of the 12,000- acre valley.<sup>42</sup>

Based on the aforementioned information, and contrary to the statements provided in the DEIS/DEIR, the Project site provides the very type of habitat preferred by golden eagles and their prey.<sup>43</sup> In the absence of empirical data on the locations of core foraging areas, the BLM and County must defer to the best available science, which suggests the Project could eliminate a substantial amount of core habitat (perhaps all) used by at least one pair of breeding eagles. The loss of core foraging habitat is likely to lead to take, as defined in the Eagle Act. The DEIS/DEIR fails to analyze or provide adequate mitigation for this potentially significant impact.

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<sup>34</sup> *Ibid.*

<sup>35</sup> BRTR, p. 3-44.

<sup>36</sup> California Wildlife Habitat Relationships System. 2005. California Department of Fish and Game. California Interagency Wildlife Task Group. CWHR version 8.1 personal computer program. Sacramento (CA).

<sup>37</sup> *Ibid.* See also Chew RM and AE Chew. 1970. Energy Relationships of the Mammals of a Desert Shrub (*Larrea tridentata*) Community. Ecological Monographs 40(1):1-21.

<sup>38</sup> *Ibid.*

<sup>39</sup> DEIS/DEIR, Figure 3.4-5.

<sup>40</sup> BRTR, p. 1-2.

<sup>41</sup> Marzluff JM, ST Knick, MS Vekasy, LS Schueck, TJ Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. The Auk 114(4):673-687.

<sup>42</sup> BRTR, p. 1-2.

<sup>43</sup> Marzluff JM, ST Knick, MS Vekasy, LS Schueck, TJ Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. The Auk 114(4):673-687. See also Chew RM and AE Chew. 1970. Energy Relationships of the Mammals of a Desert Shrub (*Larrea tridentata*) Community. Ecological Monographs 40(1):1-21.



## BURROWING OWL

Up to 48 recently active owl burrows were observed in the Project study area.<sup>44</sup> The Applicant's consultant did not conduct the surveys necessary to establish the residency status of the owls occupying those burrows. In addition, although some burrowing owls may use one or more auxiliary "satellite" burrows, the Applicant's consultant did not conduct the surveys necessary to distinguish satellite burrows from occupied burrows. Because most burrowing owls in southern California are year-round residents, one must assume an independent breeding pair of owls occupies each of the 48 recently active owl burrows detected in the Project area.<sup>45</sup>

The BLM and County anticipate all 48 active burrows would be removed during Project construction.<sup>46</sup> The DEIS/DEIR allows the Applicant to evict owls from their burrows pending evaluation of unspecified eviction plans "by CDFW."<sup>47</sup> According to the DEIS/DEIR, the eviction plans would be developed in accordance with an unspecified BLM protocol for burrowing owls.<sup>48</sup> Although the CDFW has established protocols for the eviction of burrowing owls ("passive relocation"), there is still considerable risk to burrowing owls, especially if passive relocation is not done properly. This conclusion is expressly supported by the CDFW, which has concluded that passive relocation creates potentially significant impacts under CEQA that must be analyzed.<sup>49</sup> According to the CDFW, temporary or permanent closure of burrows may result in: (a) significant loss of burrows and habitat for reproduction and other life history requirements; (b) increased stress on burrowing owls and reduced reproductive rates; (c) increased depredation; (d) increased energetic costs; and (e) risks posed by having to find and compete for available burrows.<sup>50</sup>

The need for full analysis of potential impacts from passive relocation is further supported by research that indicates most translocation projects have resulted in fewer breeding pairs of burrowing owls at the mitigation site than at the original site, and that translocation projects generally have failed to produce self-sustaining populations of owls.<sup>51</sup> Investigators attribute the limited success of translocation to: (a) strong site tenacity exhibited by burrowing owls, and (b) potential risks associated with forcing owls to move into unfamiliar and perhaps less preferable habitats.<sup>52</sup>

The DEIS/DEIR does not disclose, analyze, or provide mitigation for the Project's significant impacts to burrowing owls from passive relocation. Moreover, the BLM and County have

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<sup>44</sup> DEIS/DEIR, p. 3.4-34.

<sup>45</sup> Shuford WD, T Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

<sup>46</sup> DEIS/DEIR, p. 3.4-34.

<sup>47</sup> *Ibid*, p. 3.4-54.

<sup>48</sup> *Ibid*.

<sup>49</sup> California Department of Fish and Game. 2012. Page 10 *In*: Staff Report on Burrowing Owl Mitigation. Available at: <[www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf)>.

<sup>50</sup> *Ibid*.

<sup>51</sup> Smith BW, JR Belthoff. 2001. Burrowing owls and development: short-distance nest burrow relocation to minimize construction impacts. *J. Raptor Research* 35:385-391.

<sup>52</sup> *Ibid*.

deferred preparation of a *Burrowing Owl Mitigation and Monitoring Plan*. As a result, one must conclude that owls evicted from the Project area will experience heightened levels of mortality and reproductive failure, and that over the long-term there will be fewer breeding pairs of burrowing owls in the region.

Wilkerson and Siegel (2011) conducted extensive sampling and estimated a total of 560 pairs of burrowing owls occur in the Western Mojave Desert.<sup>53</sup> Therefore, the Project would affect approximately 8.6% of the burrowing owls (48 pairs) residing in the Western Mojave Desert.

The burrowing owl has been designated as a “sensitive” species by the BLM.<sup>54</sup> BLM sensitive species are those that require special management consideration in accordance with procedures set forth in BLM Manual section 6840.<sup>55</sup> Section 6840 identifies BLM policy with respect to sensitive species. It states: “[a]ctions authorized by the BLM shall further the conservation and/or recovery of federally listed species and conservation of Bureau sensitive species...Bureau sensitive species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA [Endangered Species Act].” According to section 6840, conservation of BLM sensitive species entails “the use of programs, plans, and management practices to reduce or eliminate threats affecting the status of the species, or improve the condition of the species’ habitat on BLM-administered lands.”

In accordance with habitat conservation plan requirements established by the USFWS, the BLM established biological goals for each of the species addressed by the West Mojave Plan.<sup>56</sup> The West Mojave Plan identifies two biological goals for the burrowing owl: (1) prevent direct incidental take, and (2) protect and enhance known populations and habitat on public land.<sup>57</sup> Approval of the Project would undeniably conflict with the second biological goal.

The statewide population of burrowing owls is experiencing a significant decline.<sup>58</sup> Project impacts to 8.6% of the burrowing owls residing in the Western Mojave Desert would promote further decline of the species and increase the likelihood that it would require listing under the ESA. As a result, BLM’s authorization of the proposed Project would conflict with the West Mojave Plan and the procedures set forth in BLM Manual section 6840. As described in a subsequent section of this letter, the mitigation measures proposed in the DEIS/DEIR do not resolve those conflicts.

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<sup>53</sup> Wilkerson RL and RB Siegel. 2011. Distribution and Abundance of Western Burrowing Owls (*Athene Cunicularia Hypugaea*) in Southeastern California. The Southwestern Naturalist 56(3): 378-384.

<sup>54</sup> DEIS/DEIR, Table 3.4-2.

<sup>55</sup> *Ibid.*

<sup>56</sup> WEMO Plan, p. 2-2.

<sup>57</sup> *Ibid.*, p. 2-4.

<sup>58</sup> Wilkerson RL and RB Siegel. 2010. Assessing changes in the distribution and abundance of burrowing owls in California, 1993-2007. Bird Populations 10: 1-36. *See also* Wilkerson RL and RB Siegel. 2011. Distribution and Abundance of Western Burrowing Owls (*Athene Cunicularia Hypugaea*) in Southeastern California. The Southwestern Naturalist 56(3): 378-384.

### Threshold for Defining Impacts

The DEIS/DEIR indicates a significant impact to the burrowing owl may occur if there is “disturbance or harassment within approximately 160 feet of occupied burrows.”<sup>59</sup> This information is incorrect. The DEIS/DEIR’s identification of 160 feet as the threshold for disturbance was obtained from guidance issued by the California Burrowing Owl Consortium (“CBOC”) in 1993. The CDFW no longer promotes the mitigation guidance described in CBOC (1993) because that mitigation guidance has **proven ineffective** in the conservation of burrowing owl populations.<sup>60</sup> The CDFW currently recommends mitigation consistent with its *2012 Staff Report on Burrowing Owl Mitigation*.<sup>61</sup> According to CDFW’s 2012 Staff Report, burrowing owls within 500 meters (1,640 feet) of a source of disturbance may be impacted (depending on the level of disturbance).<sup>62</sup> Because the DEIS/DEIR fails to consider the information provided in CDFW’s 2012 Staff Report, it does not accurately define Project impacts to burrowing owls.

### Barbed Wire

The Applicant has proposed a security fence topped with barbed wire.<sup>63</sup> Barbed-wire fencing is known to pose a mortality hazard to sensitive species that occur in the Project area, including the golden eagle, burrowing owl, and prairie falcon.<sup>64</sup> The construction of aquatic features (e.g., brine ponds) immediately adjacent to barbed-wire fencing may exacerbate the mortality hazard. The DEIS/DEIR does not disclose, analyze, or provide mitigation for the mortality hazard associated with barbed-wire fencing.

The Project’s security fence should be designed to minimize hazards to wildlife. The BLM and County need to work with the Applicant and wildlife resource agencies to develop a “wildlife-friendly” fence design that also provides site security. Such designs are feasible. At a minimum, the top most wire of the perimeter fence should be smooth.

### MOJAVE FRINGE-TOED LIZARD

The BRTR identified 5.56 acres of suitable habitat for Mojave fringe-toed lizards in the southeastern portion of the South Array, and an additional 0.26 acres of suitable habitat in the alternative Rasor Road realignment route.<sup>65</sup> In addition, the BRTR indicates the wash that flows through the southeastern edge of the ROW contains suitable habitat that could connect the two Mojave fringe-toed lizard populations south and southwest of the Project area.<sup>66</sup> Although the Project appears to have been reconfigured after preparation of the BRTR, the extent of direct impacts to Mojave fringe-toed lizard habitat remain unclear. At a minimum, however, maps

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<sup>59</sup> DEIS/DEIR, p. 3.4-35.

<sup>60</sup> CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: [www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf).

<sup>61</sup> *Ibid.*

<sup>62</sup> See p. 9 *In:* CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: [www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf).

<sup>63</sup> DEIS/DEIR, p. 2-7.

<sup>64</sup> Allen GT. 1990. A review of Bird Deaths on Barbed-Wire Fences. *Wilson Bulletin*. 102:553-58.

<sup>65</sup> BRTR, p. 3-39.

<sup>66</sup> *Ibid.*

provided in the DEIS/DEIR suggest the 0.26 acres of suitable habitat along the Rasor Road realignment route would still be directly affected by the Project.<sup>67</sup> The DEIS/DEIR does not provide mitigation for this potentially significant impact.

The placement of fencing and other Project structures would provide roosting opportunities for avian predators that target lizard prey. This has been shown to deplete lizard populations around the edges of human development.<sup>68</sup> The DEIS/DEIR acknowledges indirect Project impacts include the potential for increased predation on lizards by raptors, ravens, and other birds.<sup>69</sup> However, it concludes: “[i]ndirect effects to Mojave fringe-toed lizard would be minimized through implementation of APM 50 (IWMP) and of Mitigation Measures 3.4-1a (compliance monitoring by a designated biologist), 3.4-1b (biological monitoring during construction); and 3.4-1c (WEAP).”<sup>70</sup> The DEIS/DEIR lacks the basis for this conclusion because the proposed mitigation measures do not address the impact (i.e., heightened predation due to the increase in perch sites). As a result, the Project would result in a potentially significant, unmitigated impact to the Mojave fringe-toed lizard.

## **MITIGATION MEASURES**

### **Vegetation and Habitats**

#### **BOTANICAL RESOURCES**

The DEIS/DEIR accurately identifies the numerous indirect effects the Project may have on botanical resources.<sup>71</sup> Although the DEIS/DEIR proposes mitigation for the spread of invasive weeds, it does not provide mitigation measures for the other potentially significant indirect effects of the Project on botanical resources.

The DEIS/DEIR identifies two performance standards for the revegetation of temporarily disturbed areas:

1. By the end of the second year of monitoring at least 80 percent of the species observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; and,
2. Relative cover and density of plant species within the temporarily disturbed areas shall equal at least 60 percent.<sup>72</sup>

The proposed performance standards do not promote effective mitigation. First, allowing revegetation areas to be comprised of 20 percent non-native species is an unacceptable performance standard. Most non-native species are aggressive competitors. Many native species will not survive over the long-term if non-natives comprise 20 percent of the species early in the

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<sup>67</sup> DEIS/DEIR, Figure 3.3-2.

<sup>68</sup> Barrows CW, MF Allen, JT Rotenberry. 2006. Boundary processes between a desert sand dune community and an encroaching suburban landscape. *Biological Conservation* 131:486–494.

<sup>69</sup> DEIS/DEIR, p. 3.4-34.

<sup>70</sup> *Ibid.*

<sup>71</sup> *Ibid.*, p. 3.3-24.

<sup>72</sup> *Ibid.*, p. 3.3-34.

revegetation process. Non-native species are relatively easy to eradicate when they first become established. As a result, the performance standard for revegetation areas after two years of monitoring should be 100 percent native species.

Second, the standard of 60 percent relative cover and density of plant species cannot be evaluated or enforced because the DEIS/DEIR does not identify the variables that will be used for the comparisons. For example, is the standard for 60 percent cover *relative to*: (a) the total amount of cover at undisturbed sites, or (b) the amount of bare ground within the revegetation area?

## DESERT PAVEMENT

The DEIS/DEIR proposes the use of “temporary mats” to protect desert pavement from construction vehicles.<sup>73</sup> The DEIS/DEIR does not provide any evidence that temporary mats are an effective mitigation measure. Google Earth imagery suggests there is an extensive amount of desert pavement on the Project site. Consequently, it does not appear feasible to cover hundreds (potentially thousands) of acres of the Project site with temporary mats to protect the desert pavement from damage from construction vehicles. Moreover, it does not appear feasible to deploy mats (which are presumably heavy) across a remote and vegetated landscape without use of heavy equipment. This issue is confounded because the DEIS/DEIR allows the Applicant to defer the “plan” for the identification, avoidance, and protection of desert pavement until after Project approval.<sup>74</sup> Soil loss (through wind and water erosion) is severe when components that would normally stabilize the soil surface (e.g., rocks, crusts, vegetation) are removed. Because the DEIS/DEIR does not identify a reliable strategy for minimizing impacts to desert pavement, the Project has the potential to result in a substantial amount of erosion and sediment transport into adjacent landscapes.

## STATE WATERS

The DEIS/DEIR states: “mitigation for impacts to state waters shall occur as close to the Project site as possible.”<sup>75</sup> The DEIS/DEIR fails to identify whether there are potential mitigation sites close to the Project location. In addition, the DEIS/DEIR states: “implementation of Mitigation Measures 3.3-2 and 3.3-5 would avoid or reduce some of the direct and indirect construction-related impacts to these [state water] features. Thus, impacts to this sensitive natural community would be reduced to less than significant with mitigation.”<sup>76</sup> However, this statement contradicts the DEIS/DEIR’s statement that “it is expected that some unavoidable residual adverse effects would remain after mitigation measures have been applied, including net losses in waters of the State and vegetation resources.”<sup>77</sup> The net loss of jurisdictional waters of the State constitutes a significant impact.

## Wildlife

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<sup>73</sup> *Ibid*, p. 3.7-25.

<sup>74</sup> *Ibid*.

<sup>75</sup> *Ibid*.

<sup>76</sup> *Ibid*, p. 3.3-39.

<sup>77</sup> *Ibid*, p. 3.3-38.

## BURROWING OWL

Burrowing owl populations, like other wildlife populations, have a limiting resource. Research suggests burrowing owl populations are likely limited by (a) burrow availability; (b) prey availability; or (c) predation.<sup>78</sup> There are numerous potentially suitable, but unoccupied, burrows on the Project site (as evidenced by the number of inactive burrows detected during the surveys). Therefore, burrow availability does not appear to be the limiting resource. Whereas predators of the burrowing owl are known to occur on the Project site (e.g., American badger), the DEIS/DEIR suggests those predators occur at low abundance. As a result, prey availability is likely the limiting resource for burrowing owl populations in the Project area.

In an unperturbed environment (e.g., the Project site), one would expect the burrowing owl population to oscillate near carrying capacity. Therefore, if the population is limited by prey availability, each pair of owls requires all the prey resources in its home range (or territory) for survival. Whereas there is scant information on home range requirements of burrowing owls in the Mojave Desert, research indicates that a burrowing owl that occupies an environment with low prey densities may require hundreds, perhaps thousands, of acres.<sup>79</sup>

The DEIS/DEIR establishes that the entire Project disturbance area (approximately 2,557 acres) provides suitable nesting, foraging, and wintering habitat for burrowing owls.<sup>80</sup> The DEIS/DEIR allows the Applicant to defer preparation of a Burrowing Owl Mitigation and Monitoring Plan until after Project approval. Nevertheless, it indicates: “[i]mpacts to active burrowing owl territories shall be mitigated at a 1:1 ratio through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting this species.”<sup>81</sup> The BLM and County need to clarify which variable (i.e., burrowing owl territory or burrowing owl habitat) would be mitigated at a 1:1 ratio. The CDFW has established that offsite mitigation may not adequately offset the biological and habitat values impacted on a *one to one* basis.<sup>82</sup> As a result, the BLM and County need to justify selection of 1:1 as the appropriate mitigation ratio for impacts to 48 pairs of owls and 2,557 acres of suitable habitat.

### Pre-construction Survey

The DEIS/DEIR requires a pre-construction survey for burrowing owls no more than 30 days prior to the start of Project construction.<sup>83</sup> This condition is not consistent with CDFW guidelines, which recommend an initial preconstruction survey within the 14 days prior to ground disturbance, followed by a subsequent survey within 24 hours prior to ground

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<sup>78</sup> Moulton CE, RS Brady, JL Belthoff. 2006. Association between Wildlife and Agriculture: Underlying Mechanisms and Implications in Burrowing Owls. *The Journal of Wildlife Management* 70(3):708-716.

<sup>79</sup> See studies referenced *In*: CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: [www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf).

<sup>80</sup> DEIS/DEIR, p. 3.4-11.

<sup>81</sup> *Ibid*, p. 3.4-54.

<sup>82</sup> See p.12 *In*: CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: [www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf).

<sup>83</sup> DEIS/DEIR, p. 3.4-53.



disturbance.<sup>84</sup> As CDFW's 2012 Staff Report acknowledges, "burrowing owls may re-colonize a site after only a few days."<sup>85</sup> As a result, a single pre-construction survey up to 30 days in advance of construction is insufficient to avoid and minimize take of burrowing owls.

The DEIS/DEIR indicates the pre-construction survey should be conducted in conformance with the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Pre-construction surveys are an important means of avoiding and minimizing impacts to individual owls. However, the CDFW's Staff Report makes it clear that "take avoidance" (i.e., pre-construction) surveys are not a substitute for the four surveys required to assess Project impacts and formulate appropriate mitigation. The BLM and County must require the Applicant to conduct the four protocol-level surveys described by CDFW, and the results of those surveys need to be released in a revised DEIS/DEIR.<sup>86</sup>

### Buffers

The DEIS/DEIR states: "[u]nless otherwise authorized by BLM and CDFW, no disturbance shall occur within 160 feet (50 meters) of occupied burrows during the non-breeding season (September 1 through January 31) or within 650 feet (500 meters) during the breeding season (February 1 through August 31)."<sup>87</sup> This condition needs to be modified to clarify that 500 meters (i.e., the distance recommended by the CDFW) is equivalent to 1,640 feet.

### Burrow Exclusion

In accordance with CDFW guidelines, burrowing owls should not be excluded from burrows unless or until the Applicant:

1. develops a Burrowing Owl Exclusion Plan that is approved by the CDFW;
2. secures off-site compensation habitat and constructs artificial burrows in close proximity (< 100 m) to the eviction sites;
3. mitigates the impacts of temporary exclusion according to the methods outlined by CDFW;
4. conducts site monitoring prior to, during, and after exclusion of burrowing owls from their burrows; and,
5. documents burrowing owls using artificial or natural burrows on an adjoining mitigation site.<sup>88</sup>

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<sup>84</sup> CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <[www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf)>, pp. 29-30.

<sup>85</sup> *Ibid*, p. 30.

<sup>86</sup> *Ibid*, Appendix D.

<sup>87</sup> DEIS/DEIR, p. 3.4-54.

<sup>88</sup> CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <[www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf](http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf)>, pp. 10 and 11.

## **The DEIS/DEIR Fails to Disclose, Analyze, or Minimize the Adverse Effects Associated with the Translocation or Relocation of Wildlife**

The Project is likely to require the translocation or relocation of desert tortoises, burrowing owls, American badgers, desert kit foxes, and other wildlife species. Efforts to translocate (or relocate) animals often fail. Animals that are captured, handled, and/or forced to move from their territory often become stressed. This may lead to the increased production of lactic acid or “stress hormones” in the organism.<sup>89</sup> These physiological changes often cause a non-trivial amount of mortality. In addition, when an animal is moved to an unfamiliar location, it has no knowledge of the habitat resources essential for its survival (e.g., food, water, and cover). The lack of cover in an unfamiliar setting makes a prey species an easy target for predators. Even if the translocated animal is moved to an area with readily available resources, aggressive competitors may prevent the displaced animal from accessing the resources, and from mating. Moreover, many species exhibit an intrinsic homing response that is energetically taxing, and that may preclude procurement of food and cover resources.<sup>90</sup>

Several studies have examined the fate of translocated animals. For example, Dodd and Seigel (1991) reviewed projects involving relocation, repatriation, and translocation (“RRT”) of amphibians and reptiles. The authors concluded “[m]ost RRT projects involving amphibians and reptiles have not demonstrated success as conservation techniques and should not be advocated as if they are acceptable management and mitigation practices.”<sup>91</sup> Efforts to translocate desert tortoises have been particularly dismal. Of the 158 desert tortoises that were translocated off the Ft. Irwin Southern Expansion Area, 50% were found dead within 33 months of translocation, and an additional 26% were missing.<sup>92</sup>

The DEIS/DEIR does not identify the distribution, quantity, condition, and ownership of “replacement habitat” in the vicinity of the Project site, nor does it identify the anticipated fate of animals that are moved off the site (i.e., where they might go to survive). Moreover, unless done carefully, the passive relocation of animals off the Project site may force them across roadways (e.g., I-15) where they will be susceptible to collisions with vehicles. The Applicant should work with the wildlife agencies to develop a strategy (e.g., funnel fencing that directs wildlife through culverts) to minimize this potentially significant impact.

The aforementioned issues exemplify the need for the Applicant to develop thorough and well-crafted translocation (or relocation) plans for each species that may need to be moved off the Project site prior to construction. To minimize the adverse effects associated with translocation,

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<sup>89</sup> Tracy C.R., K. E. Nussear, T. C. Esque, K. Dean-Bradley, C. R. Tracy, L. A. DeFalco, K. T. Castle, L. C. Zimmerman, R. E. Espinoza, and A. M. Barber. 2006. The importance of physiological ecology in conservation biology. *Integrative and Comparative Biology*. pp. 1–15.

<sup>90</sup> U.S. Fish and Wildlife Service. 2009 Dec. Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*), p. 7-9. Available at: <[http://www.fws.gov/nevada/desert\\_tortoise/documents/field\\_manual/CHAPTER-7.pdf](http://www.fws.gov/nevada/desert_tortoise/documents/field_manual/CHAPTER-7.pdf)>.

<sup>91</sup> Dodd CK Jr., RA Seigel. 1991. Relocation, repatriation, and translocation of amphibians and reptiles: Are they conservation strategies that work? *Herpetologica* 47(3):336-350.

<sup>92</sup> Berry KN, A Emerson, T Gowan. 2011. The Status of 158 Desert Tortoises 33 Months After Translocation from Ft. Irwin [Abstract]. Thirty-sixth Annual Meeting and Symposium; 2011 Feb 18-20, Las Vegas (NV). The Desert Tortoise Council. Available from: <http://www.deserttortoise.org/symposium/index.html>

it is essential that the resources agencies approve the translocation plans prior to implementation.

### Desert Kit Fox

The Project will require the passive relocation of desert kit foxes. “Take” of the desert kit fox is prohibited under 14 CCR §460, and the species has been proposed for listing as threatened under the California Endangered Species Act. The first documented case of canine distemper disease in the desert kit fox was recently discovered at the Genesis Solar Energy Project site.<sup>93</sup> Since then the disease has spread, and there is concern that the desert kit fox could suffer an epidemic similar to one that nearly wiped out the island fox population on Santa Catalina Island in 1999.<sup>94</sup> Deana Clifford, state wildlife veterinarian for the CDFW, has stated that she is not certain that the outbreak is connected to the Genesis project, “but we know that habitat disturbance causes stress, and when animals succumb to stress they become more susceptible to disease.”<sup>95</sup> The Project has the potential to exacerbate the risk of kit fox distemper by: (a) stressing resident kit foxes; and (b) displacing kit foxes from their home ranges (which may lead to intermingling of healthy and diseased kit foxes). The BLM and County must disclose and provide mitigation for this potentially significant impact to the species.

As is currently being done for other projects throughout the desert, the Applicant, BLM, and County should work closely with the CDFW to develop take avoidance measures and to address the distemper issue afflicting the desert kit fox population. At a minimum, the Applicant and County should develop a kit fox mitigation monitoring program that has been approved by the CDFW, and that program should be incorporated as a required mitigation measure.

### **Mitigation Plans**

The DEIS/DEIR references numerous mitigation “plans” (e.g., Bird and Bat Conservation Strategy) that it claims will reduce Project impacts to a less-than-significant level. Many of those plans have not been prepared yet. The ones that exist in draft form were not provided with the DEIS/DEIR, and the BLM and County are not requiring final approval of the plans (by the applicable resource agencies) until after a decision is made on the Project.

It is premature for the BLM and County to conclude forthcoming plans would reduce impacts to a less-than-significant level, especially because the DEIS/DEIR generally fails to identify fundamental aspects of the plans (e.g., success criteria, monitoring program, contingency measures). Deferring mitigation plans until after Project approval is additionally problematic because the resource agencies often do not have the resources needed to keep up with the pace of renewable energy development in California. For example, some of the mitigation plans required of the Ivanpah Solar Electric Generating System (“ISEGS”) Project have yet to be finalized (e.g., Bighorn Sheep Plan), even though construction of the project began in October 2010.

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<sup>93</sup> See <http://cdfgnews.wordpress.com/2012/01/24/dfg-investigates-first-cases-of-canine-distemper-in-wild-desert-kit-foxes/>. See also <http://www.vvdailynews.com/news/foxes-34071-miles-distemper.html>. See also <http://articles.latimes.com/2012/feb/11/local/la-me-solar-foxes-20120211>.

<sup>94</sup> *Ibid.*

<sup>95</sup> *Ibid.*

## Raven Management

I cannot evaluate the adequacy of the proposed raven management plan as a mitigation measure because the plan, and contents therein, have not been made available to the public. Nevertheless, I concur with the USFWS that a plan alone is insufficient to mitigate impacts associated with ravens. This is exemplified by the “sudden increase” in ravens that has been observed at the ISEGS Project site since construction began.<sup>96</sup> As has been required for other projects in the desert, the Applicant should be required to provide a financial contribution to the USFWS Regional Raven Management Program.

This concludes my comments on the DEIS/DEIR. Please do not hesitate to contact me if you have would like to discuss any issues raised by these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott Cashen', with a stylized, cursive script.

Scott Cashen, M.S.  
Senior Biologist

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<sup>96</sup> See ISEGS Monthly Monitoring Reports, Oct-Dec 2012.

## **Scott Cashen, M.S.**

### **Senior Biologist / Forest Ecologist**

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Scott Cashen has 21 years of professional experience in natural resources management. During that time he has worked as a field biologist, forester, environmental consultant, and instructor of Wildlife Management. Mr. Cashen currently operates an independent consulting business that focuses on CEQA/NEPA compliance issues, endangered species, scientific field studies, and other topics that require a high level of scientific expertise.

Mr. Cashen has knowledge and experience with numerous taxa, ecoregions, biological resource issues, and environmental regulations. As a biological resources expert, Mr. Cashen is knowledgeable of the various agency-promulgated guidelines for field surveys, impact assessments, and mitigation. Mr. Cashen has led field investigations on several special-status species, including ones focusing on the yellow-legged frog, red-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and various forest carnivores.

Mr. Cashen is a recognized expert on the environmental impacts of renewable energy development. He has been involved in the environmental review process for over 60 solar, wind, biomass, and geothermal energy projects. Mr. Cashen's role in this capacity has encompassed all stages of the environmental review process, from initial document review through litigation support. Mr. Cashen has provided expert witness testimony on several of the Department of the Interior's "fast-tracked" renewable energy projects. His testimony on those projects helped lead agencies develop project alternatives and mitigation measures to reduce the environmental impacts associated with the projects.

Mr. Cashen was a member of the independent scientific review panel for the Quincy Library Group project, the largest community forestry project in the United States. As a member of the panel, Mr. Cashen was responsible for advising the U.S. Forest Service on its scientific monitoring program, and for preparing a final report to Congress describing the effectiveness of the Herger-Feinstein Forest Recovery Act of 1998.

### **AREAS OF EXPERTISE**

- CEQA, NEPA, and Endangered Species Act compliance issues
- Comprehensive biological resource assessments
- Endangered species management
- Renewable energy development
- Scientific field studies, grant writing and technical editing

### **EDUCATION**

M.S. Wildlife and Fisheries Science - The Pennsylvania State University (1998)

B.S. Resource Management - The University of California, Berkeley (1992)

## **PROFESSIONAL EXPERIENCE**

### **Litigation Support / Expert Witness**

As a biological resources expert, Mr. Cashen reviews CEQA/NEPA documents and provides his clients with an assessment of biological resource issues. He then prepares written comments on the scientific and legal adequacy of the project's environmental documents (e.g., Environmental Impact Statement).

Mr. Cashen can lead field studies to generate evidence for legal testimony, and he can incorporate testimony from his deep network of species-specific experts. Mr. Cashen's clients have included law firms, non-profit organizations, and citizen groups.

### **REPRESENTATIVE RENEWABLE ENERGY EXPERIENCE**

#### **Solar Energy**

- Abengoa Mojave Solar Project
- Avenal Energy Power Plant
- Beacon Solar Energy Project
- Blythe Solar Power Project
- Calico Solar Project
- Calipatria Solar Farm II
- Carrizo Energy Solar Farm
- Catalina Renewable Energy Project
- Fink Road Solar Farm
- Genesis Solar Energy Project
- Heber Solar Energy Facility
- Imperial Valley Solar Project
- Ivanpah Solar Electric Generating
- Maricopa Sun Solar Complex
- McCoy Solar Project
- Mt. Signal and Calxico Solar
- San Joaquin Solar I & II
- Stateline Solar Project
- Solar Gen II Projects
- SR Solis Oro Loma
- Vestal Solar Facilities
- Victorville 2 Power Project

#### **Geothermal Energy**

- Casa Diablo IV Geothermal Project
- East Brawley Geothermal
- Mammoth Pacific 1 Replacement
- Orni 21 Geothermal Project
- Western GeoPower Plant

#### **Wind Energy**

- Catalina Renewable Energy Project
- Ocotillo Wind Energy Project
- San Diego County Wind Ordinance
- Shu'luuk Wind Project
- Tres Vaqueros Repowering Project
- Tule Wind Project
- Vasco Winds Relicensing Project

#### **Biomass Facilities**

- Tracy Green Energy Project
- Colusa Biomass Project
- CA Ethanol Project



## Project Management

Mr. Cashen has managed several large-scale wildlife, forestry, and natural resource management projects. Many of these projects have required hiring and training field crews, coordinating with other professionals, and communicating with project stakeholders. Mr. Cashen's experience in study design, data collection, and scientific writing make him an effective project manager, and his background in several different natural resource disciplines enable him to address the many facets of contemporary land management in a cost-effective manner.

### REPRESENTATIVE EXPERIENCE

#### *Wildlife Studies*

- Peninsular Bighorn Sheep Resource Use and Behavior Study: (CA State Parks)
- "KV" Spotted Owl and Northern Goshawk Inventory: (USFS, Plumas NF)
- Amphibian Inventory Project: (USFS, Plumas NF)
- San Mateo Creek Steelhead Restoration Project: (Trout Unlimited and CA Coastal Conservancy, Orange County)
- Delta Meadows State Park Special-status Species Inventory: (CA State Parks, Locke)

#### *Natural Resources Management*

- Mather Lake Resource Management Study and Plan – (Sacramento County)
- Placer County Vernal Pool Study – (Placer County)
- Weidemann Ranch Mitigation Project – (Toll Brothers, Inc., San Ramon)
- Ion Communities Biological Resource Assessments – (Ion Communities, Riverside and San Bernardino Counties)
- Del Rio Hills Biological Resource Assessment – (The Wyro Company, Rio Vista)

#### *Forestry*

- Forest Health Improvement Projects – (CalFire, SD and Riverside Counties)
- San Diego Bark Beetle Tree Removal Project – (SDG&E, San Diego Co.)
- San Diego Bark Beetle Tree Removal Project – (San Diego County/NRCS)
- Hillslope Monitoring Project – (CalFire, throughout California)

## Biological Resources

Mr. Cashen has a diverse background with biological resources. He has conducted comprehensive biological resource assessments, habitat evaluations, species inventories, and scientific peer review. Mr. Cashen has led investigations on several special-status species, including ones focusing on the foothill yellow-legged frog, mountain yellow-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and forest carnivores.

### REPRESENTATIVE EXPERIENCE

#### *Avian*

- Study design and Lead Investigator - Delta Meadows State Park Special-Status Species Inventory (*CA State Parks: Locke*)
- Study design and lead bird surveyor - Placer County Vernal Pool Study (*Placer County: throughout Placer County*)
- Surveyor - Willow flycatcher habitat mapping (*USFS: Plumas NF*)
- Independent surveyor - Tolay Creek, Cullinan Ranch, and Guadacanal Village restoration projects (*Ducks Unlimited/USGS: San Pablo Bay*)
- Study design and Lead Investigator - Bird use of restored wetlands research (*Pennsylvania Game Commission: throughout Pennsylvania*)
- Study design and surveyor - Baseline inventory of bird species at a 400-acre site in Napa County (*HCV Associates: Napa*)
- Surveyor - Baseline inventory of bird abundance following diesel spill (*LFR Levine-Fricke: Suisun Bay*)
- Study design and lead bird surveyor - Green Valley Creek Riparian Restoration Site (*City of Fairfield: Fairfield, CA*)
- Surveyor - Burrowing owl relocation and monitoring (*US Navy: Dixon, CA*)
- Surveyor - Pre-construction raptor and burrowing owl surveys (*various clients and locations*)
- Surveyor - Backcountry bird inventory (*National Park Service: Eagle, Alaska*)
- Lead surveyor - Tidal salt marsh bird surveys (*Point Reyes Bird Observatory: throughout Bay Area*)
- Surveyor - Pre-construction surveys for nesting birds (*various clients and locations*)

#### *Amphibian*

- Crew Leader - Red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog surveys (*USFS: Plumas NF*)

- Surveyor - Foothill yellow-legged frog surveys (*PG&E: North Fork Feather River*)
- Surveyor - Mountain yellow-legged frog surveys (*El Dorado Irrigation District: Desolation Wilderness*)
- Crew Leader - Bullfrog eradication (*Trout Unlimited: Cleveland NF*)

#### *Fish and Aquatic Resources*

- Surveyor - Hardhead minnow and other fish surveys (*USFS: Plumas NF*)
- Surveyor - Weber Creek aquatic habitat mapping (*El Dorado Irrigation District: Placerville, CA*)
- Surveyor - Green Valley Creek aquatic habitat mapping (*City of Fairfield: Fairfield, CA*)
- GPS Specialist - Salmonid spawning habitat mapping (*CDFG: Sacramento River*)
- Surveyor - Fish composition and abundance study (*PG&E: Upper North Fork Feather River and Lake Almanor*)
- Crew Leader - Surveys of steelhead abundance and habitat use (*CA Coastal Conservancy: Gualala River estuary*)
- Crew Leader - Exotic species identification and eradication (*Trout Unlimited: Cleveland NF*)

#### *Mammals*

- Principal Investigator – Peninsular bighorn sheep resource use and behavior study (*California State Parks: Freeman Properties*)
- Scientific Advisor – Study on red panda occupancy and abundance in eastern Nepal (*The Red Panda Network: CA and Nepal*)
- Surveyor - Forest carnivore surveys (*University of CA: Tahoe NF*)
- Surveyor - Relocation and monitoring of salt marsh harvest mice and other small mammals (*US Navy: Skagg's Island, CA*)
- Surveyor – Surveys for Monterey dusky-footed woodrat. Relocation of woodrat houses (*Touré Associates: Prunedale*)

#### *Natural Resource Investigations / Multiple Species Studies*

- Scientific Review Team Member – Member of the science review team assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.
- Lead Consultant - Baseline biological resource assessments and habitat mapping for CDF management units (*CDF: San Diego, San Bernardino, and Riverside Counties*)

- Biological Resources Expert – Peer review of CEQA/NEPA documents (*Adams Broadwell Joseph & Cardoza: California*)
- Lead Consultant - Pre- and post-harvest biological resource assessments of tree removal sites (*SDG&E: San Diego County*)
- Crew Leader - T&E species habitat evaluations for Biological Assessment in support of a steelhead restoration plan (*Trout Unlimited: Cleveland NF*)
- Lead Investigator - Resource Management Study and Plan for Mather Lake Regional Park (*County of Sacramento: Sacramento, CA*)
- Lead Investigator - Biological Resources Assessment for 1,070-acre Alfaro Ranch property (*Yuba County, CA*)
- Lead Investigator - Wildlife Strike Hazard Management Plan (*HCV Associates: Napa*)
- Lead Investigator - Del Rio Hills Biological Resource Assessment (*The Wyro Company: Rio Vista, CA*)
- Lead Investigator – Ion Communities project sites (*Ion Communities: Riverside and San Bernardino Counties*)
- Surveyor – Tahoe Pilot Project: Validation of California’s Wildlife Habitat Relationships (CWHR) Model (*University of California: Tahoe NF*)

## Forestry

Mr. Cashen has five years of experience working as a consulting forester on projects throughout California. Mr. Cashen has consulted with landowners and timber operators on forest management practices; and he has worked on a variety of forestry tasks including selective tree marking, forest inventory, harvest layout, erosion control, and supervision of logging operations. Mr. Cashen’s experience with many different natural resources enable him to provide a holistic approach to forest management, rather than just management of timber resources.

## REPRESENTATIVE EXPERIENCE

- Lead Consultant - CalFire fuels treatment projects (*SD and Riverside Counties*)
- Lead Consultant and supervisor of harvest activities – San Diego Gas and Electric Bark Beetle Tree Removal Project (*San Diego*)
- Crew Leader - Hillslope Monitoring Program (*CalFire: throughout California*)
- Consulting Forester – Forest inventories and timber harvest projects (*various clients throughout California*)

## **Grant Writing and Technical Editing**

Mr. Cashen has prepared and submitted over 50 proposals and grant applications. Many of the projects listed herein were acquired through proposals he wrote. Mr. Cashen's clients and colleagues have recognized his strong scientific writing skills and ability to generate technically superior proposal packages. Consequently, he routinely prepares funding applications and conducts technical editing for various clients.

## **PERMITS**

U.S. Fish and Wildlife Service Section 10(a)(1)(A) Recovery Permit for the Peninsular bighorn sheep

CA Department of Fish and Game Scientific Collecting Permit

## **PROFESSIONAL ORGANIZATIONS / ASSOCIATIONS**

The Wildlife Society (Conservation Affairs Committee member)

Cal Alumni Foresters

Mt. Diablo Audubon Society

## **OTHER AFFILIATIONS**

Scientific Advisor and Grant Writer – *The Red Panda Network*

Scientific Advisor – *Mt. Diablo Audubon Society*

Grant Writer – *American Conservation Experience*

Scientific Advisor and Land Committee Member – *Save Mt. Diablo*

## **TEACHING EXPERIENCE**

Instructor: Wildlife Management - The Pennsylvania State University, 1998

Teaching Assistant: Ornithology - The Pennsylvania State University, 1996-1997

# EXHIBIT C



## D. Mojave Desert Air Basin

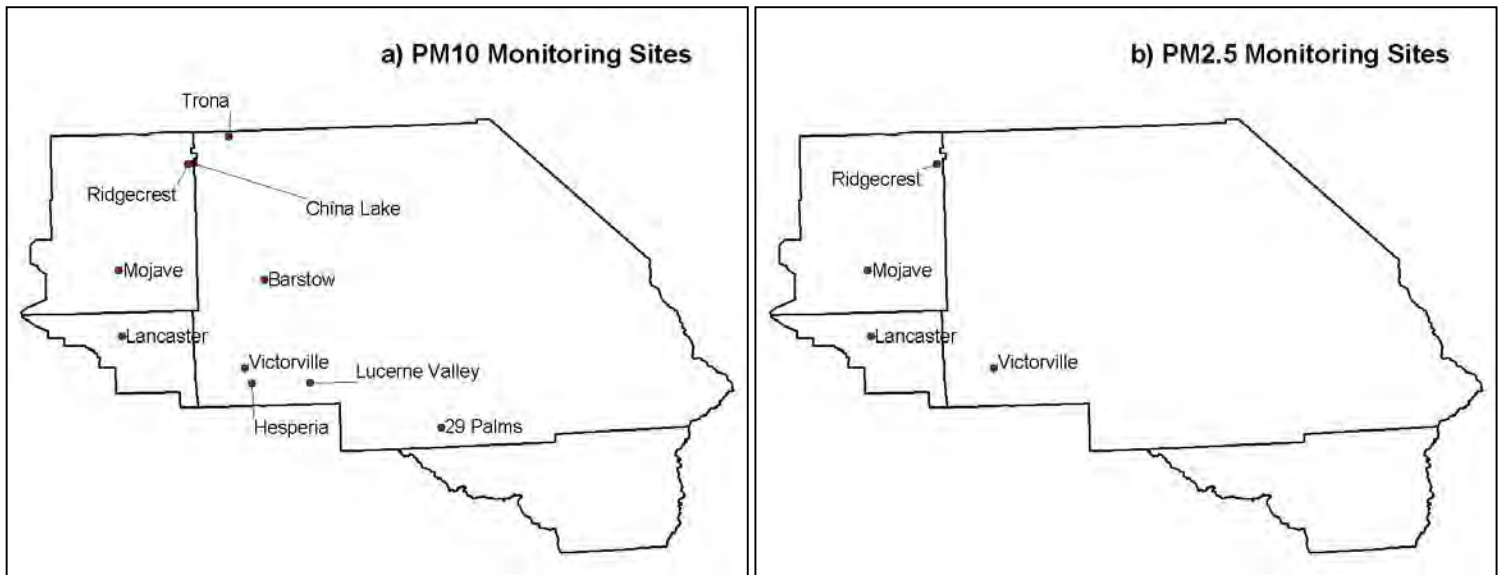


The Mojave Desert Air Basin is comprised of four air districts, the Kern County APCD, the Antelope Valley AQMD, the Mojave Desert AQMD, and the eastern portion of the South Coast AQMD. The Kern County APCD consists of the eastern portion of Kern County; the Antelope Valley AQMD consists of the northeastern portion of Los Angeles County; the Mojave Desert AQMD includes San Bernardino County and the most eastern portion of Riverside County; and the portion of the South Coast AQMD includes the eastern part of Riverside County.

The entire air basin is currently designated as nonattainment for both the State 24-hour and the annual average PM<sub>10</sub> standards, with only the western portion of the Mojave Desert AQMD designated as nonattainment for the State annual average PM<sub>2.5</sub> standard. The San Bernardino portion of the Mojave Desert AQMD is currently designated as nonattainment for the national PM<sub>10</sub> standards. However, although this portion of the air district has not been officially redesignated, it has not exceeded these standards in many years.

Figure D-1 shows the PM<sub>10</sub> (a) and PM<sub>2.5</sub> (b) monitoring sites throughout the Mojave Desert Air Basin. Sites are located in the more densely populated western portion of the air basin.

**Figure D-1. PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Sites throughout the Air Basin.**



## **Kern County APCD**

Table D-1 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Kern County APCD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50  $\mu\text{g}/\text{m}^3$  thirty times and also exceeded the State annual PM10 standard of 20  $\mu\text{g}/\text{m}^3$ . Data are insufficient to determine if PM2.5 levels exceeded the State annual standard of 12  $\mu\text{g}/\text{m}^3$ .

**Table D-1. PM10 and PM2.5 Air Quality in the Kern County APCD.**

Year	PM10 ( $\mu\text{g}/\text{m}^3$ )			PM2.5 ( $\mu\text{g}/\text{m}^3$ )	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour*	Max Annual Average (Std.=12)
2001	6	112	20	15	Incomplete Data
2002	12	194**	24	31	Incomplete Data
2003	12	158**	22	23	Incomplete Data

\* The maximum 24-hour PM2.5 values are provided for information only.

\*\* These values were excluded for determining attainment status. See text.

Table D-2 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentrations in 2002 and 2003 shown in Table D-1 were identified as extreme concentration events and were excluded in determining the designation values shown in Table D-2. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Kern County APCD currently is nonattainment for both the State 24-hour and annual average PM10 standards. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

**Table D-2. Air District Level Designation Values\* for the State PM10 and PM2.5 Standards (2001-2003 Period).**

	PM10 ( $\mu\text{g}/\text{m}^3$ )		PM2.5 ( $\mu\text{g}/\text{m}^3$ )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	112	24	Incomplete Data

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-3 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. The data show that all three PM10 monitors in the Kern County APCD exceeded the 24-hour PM10 standard, with China Lake recording the highest concentrations. China Lake, however, did not exceed the PM10 annual standard of 20  $\mu\text{g}/\text{m}^3$ , while the Mojave and Ridgecrest monitoring sites did. PM2.5 data are not yet complete enough to determine PM2.5 annual average concentrations.

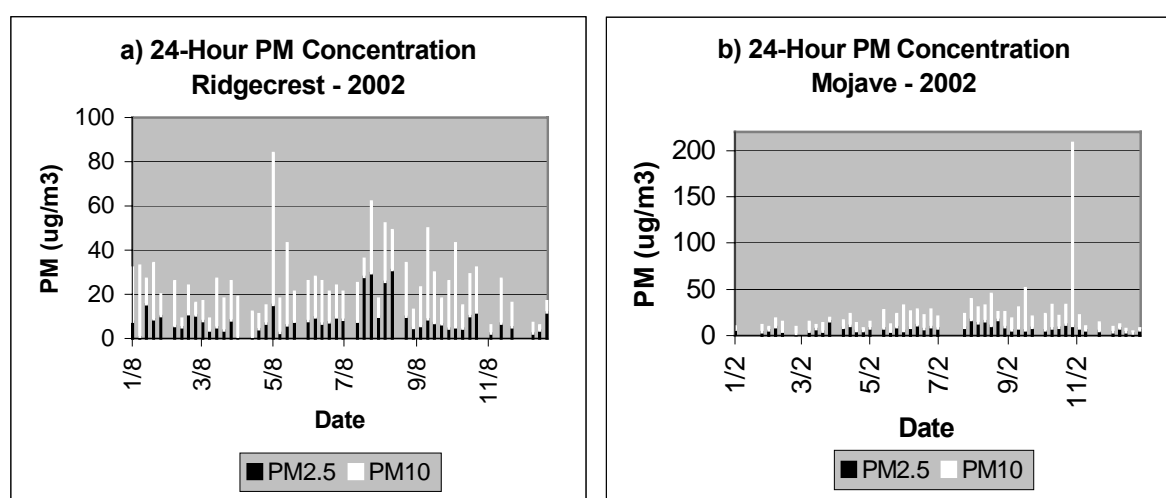
**Table D-3. Monitoring Site Level Designation Values\* for the State PM10 and PM2.5 Standards (2001-2003 Period).**

Site	PM10 ( $\mu\text{g}/\text{m}^3$ )		PM2.5 ( $\mu\text{g}/\text{m}^3$ )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
China Lake	112	15	No monitor
Mojave	93	21	Incomplete Data
Ridgecrest	78	24	Incomplete Data

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure D-2 illustrates the variation in PM10 and PM2.5 levels throughout 2002 at Ridgecrest (a) and Mojave (b). The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. At Ridgecrest, higher PM10 concentrations occurred during the spring through the early fall. During the spring and early fall, the coarse fraction (particles between PM2.5 and PM10 in size) drove the ambient PM10 levels, while during the late summer, the PM2.5 fraction was more prominent. The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust. The very high PM10 concentration in October 2002 at Mojave for example was likely caused by fugitive wind blown dust. On an annual average, based on 2000-2003 monitoring data, we estimate PM2.5 comprises 32 percent of the ambient PM10 levels in the Kern County APCD.

**Figure D-2. Seasonal Variation in PM10 and PM2.5 Concentrations.**



Based on PM2.5 chemical composition data available from sites operated at China Lake, Edwards, and Mojave during the 2000 California Regional PM10 and PM2.5 Air Quality Study, the fraction of PM2.5 that is comprised of secondary ammonium nitrate and ammonium sulfate was approximately 40 percent on an annual average.

## **Antelope Valley AQMD**

Table D-4 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Antelope Valley AQMD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50  $\mu\text{g}/\text{m}^3$  at least six times and also exceeded the State annual PM10 standard of 20  $\mu\text{g}/\text{m}^3$ . Although data are insufficient to determine the calculated days exceeding the State 24-hour PM10 standard in 2002, one day measured PM concentrations exceeding the standard. In 2003, annual average PM2.5 levels were well below the State annual PM2.5 standard of 12  $\mu\text{g}/\text{m}^3$ , but data were insufficient to determine if this was also the case in 2001 and 2002.

**Table D-4. PM10 and PM2.5 Air Quality in the Antelope Valley APCD.**

Year	PM10 ( $\mu\text{g}/\text{m}^3$ )			PM2.5 ( $\mu\text{g}/\text{m}^3$ )	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour**	Max Annual Average (Std.=12)
2001	No monitor	No monitor	No monitor	No monitor	No monitor
2002	Incomplete Data	73*	Incomplete Data	24	Incomplete Data
2003	6	54	23	25	9

\* The maximum 24-hour PM2.5 values are provided for information only.

\*\* This value is excluded for determining attainment status. See text.

Table D-5 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentration in 2002 shown in Table D-4 was identified as an extreme concentration event and was excluded in determining the designation values shown in Table D-5. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Antelope Valley AQMD currently is nonattainment for the State 24-hour and annual average PM10 standards. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

**Table D-5. Air District Level Designation Values\* for the State PM10 and PM2.5 Standards (2001-2003 Period).**

	PM10 ( $\mu\text{g}/\text{m}^3$ )		PM2.5 ( $\mu\text{g}/\text{m}^3$ )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	54	23	Incomplete Data

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-6 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. Only a single monitoring site at Lancaster is operated in the District. As noted above, Lancaster exceeds the State 24-hour and annual average PM10 standards. Although data are not complete for all three years, the PM2.5 annual average concentration at Lancaster is below the State standard.

**Table D-6. Monitoring Site Level Designation Values\* for the State PM10 and PM2.5 Standards (2001-2003 Period).**

Site	PM10 ( $\mu\text{g}/\text{m}^3$ )		PM2.5 ( $\mu\text{g}/\text{m}^3$ )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Lancaster	54	23	9

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

**Figure D-3. Seasonal Variation in PM10 and PM2.5 Concentrations.**

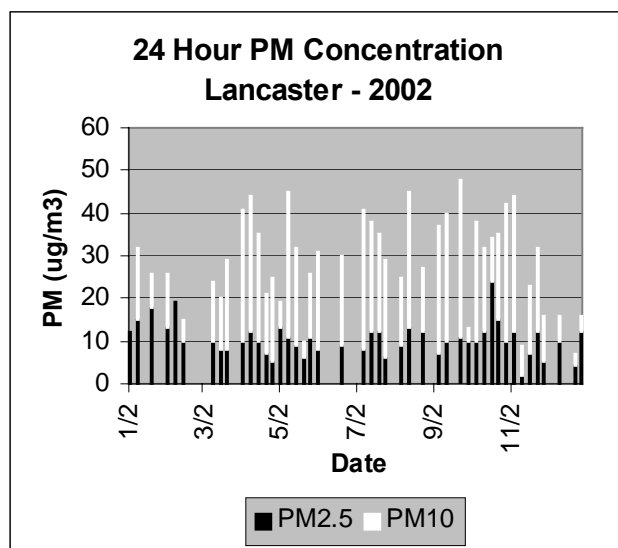


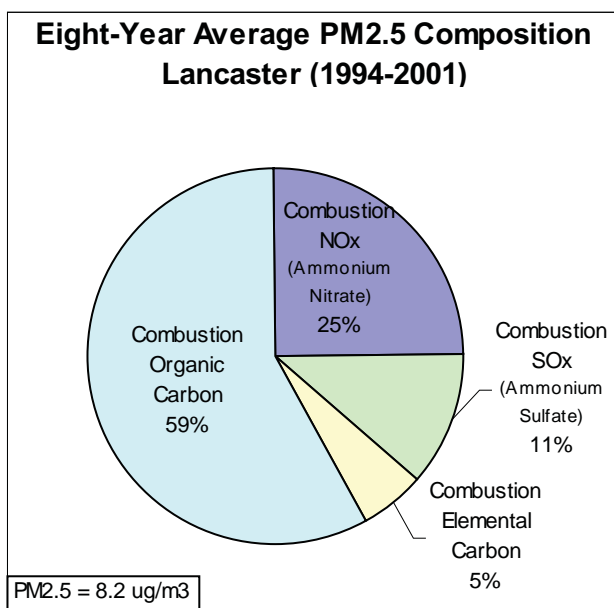
Figure D-3 illustrates the variation in PM10 and PM2.5 levels throughout 2002 at Lancaster. The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. PM10 levels were highest from spring through early fall and were driven by the coarse fraction (particles between PM2.5 and PM10), while PM2.5 concentrations remained low throughout the year. The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust.

On an annual average, based on 2000-2003 monitoring data, we estimate that PM2.5 comprises

36 percent of the PM10 ambient levels.



**Figure D-4. Eight-Year Average PM2.5 Chemical Composition and Link to Source Type.**



Data for Figure D-4 are from analysis of ambient PM2.5 data collected at Lancaster as part of the Southern California Children's Health Study. The data show the major contribution to PM2.5 is from organic carbon (59 percent). The majority of organic carbon is expected to be due to directly emitted carbon from combustion sources. Key sources include vehicles, residential wood combustion, agricultural and prescribed burning, and stationary combustion sources. However, a fraction may be due to secondary organic aerosol formation from anthropogenic and biogenic VOC emissions.

Secondary ammonium nitrate and ammonium sulfate - formed in the atmosphere through chemical reactions of NOx and SOx from mobile and stationary source combustion processes, together contribute about 36 percent to PM2.5 levels. Elemental carbon from combustion sources also contributes to PM2.5 levels, but to a much lesser extent.

## **Mojave Desert AQMD**

Table D-7 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Mojave Desert AQMD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50  $\mu\text{g}/\text{m}^3$  at least 18 times. PM concentrations also exceeded the State annual PM10 standard of 20  $\mu\text{g}/\text{m}^3$  and the annual PM2.5 standard of 12  $\mu\text{g}/\text{m}^3$ .

**Table D-7. PM10 and PM2.5 Air Quality in the Mojave Desert AQMD.**

Year	PM10			PM2.5	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour*	Max Annual Average (Std.=12)
2001	Incomplete Data	84**	Incomplete Data	32	12
2002	Incomplete Data	98**	Incomplete Data	38	14
2003	18	169***	28	28	Incomplete Data

\* The maximum 24-hour PM2.5 values are provided for information only.

\*\* Data are reported in standard conditions.

\*\*\* This value is excluded for determining attainment status. See text.

Table D-8 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentration in 2003 shown in Table D-7 was due to wildfires and was excluded in determining the designation values shown in Table D-8. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Mojave Desert APCD currently is nonattainment for both the State 24-hour and annual average PM10 standards. The San Bernadino County portion of the District is also designated as nonattainment for the State annual PM2.5 standard.

**Table D-8. Air District Level Designation Values\* for the State PM10 and PM2.5 Standards (2001-2003 Period).**

	PM10 ( $\mu\text{g}/\text{m}^3$ )		PM2.5 ( $\mu\text{g}/\text{m}^3$ )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	129	28	14

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-9 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. All six monitors in the Mojave Desert AQMD recorded PM<sub>10</sub> concentrations exceeding the State 24-hour standard, with particulate levels at Hesperia also exceeding the State annual PM<sub>10</sub> standard of 20 µg/m<sup>3</sup>. 24-hour PM<sub>10</sub> concentrations were highest at Barstow, Hesperia, and Trona. Annual average PM<sub>2.5</sub> levels at Victorville exceeded the State annual PM<sub>2.5</sub> standard.

**Table D-9. Monitoring Site Level Designation Values\* for State PM<sub>10</sub> and PM<sub>2.5</sub> Standards (2001-2003 Period).**

Site	PM <sub>10</sub> (ug/m <sup>3</sup> )		PM <sub>2.5</sub> (ug/m <sup>3</sup> )
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
29 Palms	64	16	No Monitor
Barstow	129	Incomplete Data	No Monitor
Hesperia	119	28	No Monitor
Lucerne Valley	75	17	No Monitor
Trona	104	17	No Monitor
Victorville	63	Incomplete Data	14

\* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

**Figure D-5. Seasonal Variation in PM<sub>10</sub> and PM<sub>2.5</sub> Concentrations.**

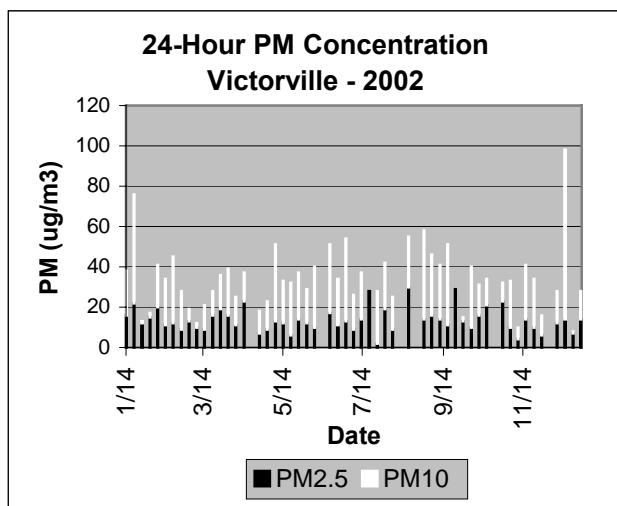


Figure D-5 illustrates the variation in PM<sub>10</sub> and PM<sub>2.5</sub> levels throughout 2002 at Victorville. The total height of the bars represents PM<sub>10</sub> concentrations, while the height of the black portion of the bars represents the PM<sub>2.5</sub> fraction. The two highest PM<sub>10</sub> concentrations occurred in December and January. PM<sub>10</sub> concentrations around the level of the State 24-hour standard occurred in the late spring and through the summer and were driven by the coarse fraction (particles between PM<sub>2.5</sub> and PM<sub>10</sub>). The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust. PM<sub>2.5</sub> concentrations were more uniform

throughout the year.

On an annual average, based on 2000-2003 monitoring data, we estimate that PM<sub>2.5</sub> comprises approximately 38 percent of ambient PM<sub>10</sub> levels. Although no chemical composition data is available, based on data from the Kern County APCD portion of the air basin, we estimate that the secondary ammonium nitrate and sulfate comprise approximately 40 percent of PM<sub>2.5</sub>.

## **South Coast AQMD**

No PM10 or PM2.5 monitors are located in the South Coast AQMD portion of the Mojave Desert Air Basin.

# EXHIBIT D

**Los Angeles County Renewable Energy Projects**

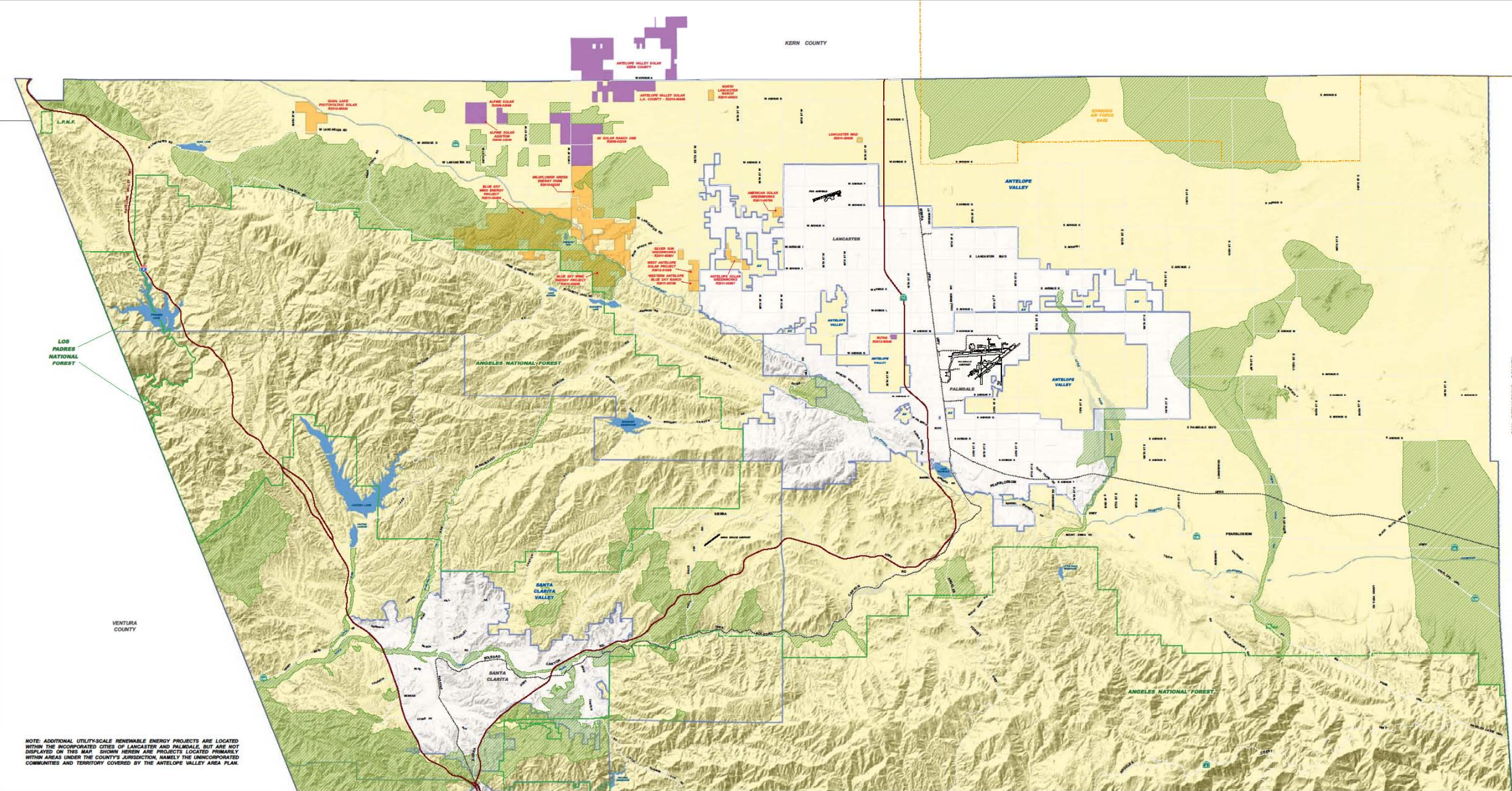
PROJECT_NO	PROJECT	APPLICANT	TYPE	MEGAWATTS	ACRES	ACRES_DEV	PLANNER	STATUS_
R2009-02089	Alpine Solar	NRG	Photovoltaic Solar	92.0	800.0	580.0	Curzi	Approved
R2009-02089	Alpine Solar Addition	NRG	Photovoltaic Solar	0.0	35.0	35.0	Thurtell	Approved
R2009-02239	AV Solar Ranch One	First Solar	Photovoltaic Solar	230.0	2100.0	2100.0	Szalay	Approved
R2010-00808	Antelope Valley Solar - LACo	Renewable Resources Group	Photovoltaic Solar	156.0	1238.0	1238.0	Curzi	Approved
R2012-00849	Rutan	Sunlight Partners	Photovoltaic Solar	4.0	45.3	43.9	Wong	Approved
R2010-01402	Blue Sky Wind Energy Met Tower	NextEra	Temporary Meteorological Tower	0.0	0.0	0.0	Tae	Denied
R2011-00177	Wildflower Green Energy Farm Met Tower	Element Power	Temporary Meteorological Tower	0.0	0.0	0.0	Tae	Denied
R2011-00798	Western Antelope Blue Sky Ranch	Silverado Power	Photovoltaic Solar	40.0	160.0	160.0	Szalay	Draft EIR Circulation
R2011-00799	American Solar Greenworks	Silverado Power	Photovoltaic Solar	35.0	140.0	140.0	Szalay	Draft EIR Circulation
R2011-00801	Silver Sun Greenworks	Silverado Power	Photovoltaic Solar	20.0	80.0	80.0	Szalay	Draft EIR Circulation
R2011-00805	Lancaster WAD	Silverado Power	Photovoltaic Solar	5.0	39.0	39.0	Szalay	Draft EIR Circulation
R2011-00807	Antelope Solar Greenworks	Silverado Power	Photovoltaic Solar	52.0	256.0	256.0	Szalay	Draft EIR Circulation
R2011-00833	North Lancaster Ranch	Silverado Power	Photovoltaic Solar	20.0	80.0	80.0	Szalay	Draft EIR Circulation
R2010-00256	Wildflower Green Energy Farm	Element Power	Wind Turbine Photovoltaic Solar	300.0	3708.0	3708.0	Curzi	Inactive
R2011-00408	Blue Sky Wind Energy	NextEra	Wind Turbine	225.0	7500.0	7500.0	Curzi	Inactive
R2012-00024	Quail Lake Photovoltaic Solar	Iberdrola	Photovoltaic Solar	100.0	692.0	692.0	Curzi	Initial Review
R2012-01589	West Antelope Solar Project	TUUSO Energy	Photovoltaic Solar	20.0	263.0	263.0	Curzi	Public Hearing Noticed
R2008-00878	Antelope Solar 2	Recurrent Energy	Photovoltaic Solar	10.0	80.0	80.0	Curzi	Withdrawn
R2009-01148	Gray Butte Solar Array	AES Solar	Photovoltaic Solar	150.0	1100.0	1100.0	Curzi	Withdrawn
R2010-00911	Antelope Solar 1	Recurrent Energy	Photovoltaic Solar	10.0	111.0	111.0	Curzi	Withdrawn



# Los Angeles County Renewable Energy Projects

PROJECT_NO	PROJECT	APPLICANT	TYPE	MEGAWATTS	ACRES	ACRES_DEV	PLANNER	STATUS_
R2010-01039	Recurrent 7	RE 40th Street 1 LLC & RE 45th Street 1 LLC	Photovoltaic Solar	4.0	40.0	20.0	Curzi	Withdrawn
R2010-01041	Recurrent Energy - 105th Street North 1	RE 105th North 1 LLC	Photovoltaic Solar	5.9	46.0	46.0	Curzi	Withdrawn
R2010-01638	L.A. Solar 20	L.A. Solar 20	Photovoltaic Solar	20.0	155.0	155.0	Curzi	Withdrawn
R2011-00377	Antelope Solar Farm	Sun Edison	Photovoltaic Solar	20.0	320.0	200.0	Curzi	Withdrawn
R2011-00410	Ruby Solar	Ruby Solar	Photovoltaic Solar	20.0	160.0	160.0	Curzi	Withdrawn
R2011-00804	East Lancaster Ranch	Silverado Power	Photovoltaic Solar	4.0	30.0	30.0	Special Projects	Withdrawn
R2011-00806	Sierra Solar Greenworks	Silverado Power	Photovoltaic Solar	20.0	81.0	81.0	Edwards	Withdrawn
R2011-00834	American Lake Greenworks	Silverado Power	Photovoltaic Solar	20.0	96.0	96.0	Blengini	Withdrawn
R2011-01025	Theme	Sunlight Partners	Photovoltaic Solar	2.0	27.0	27.0	Edwards	Withdrawn
R2011-01026	Hall	Sunlight Partners	Photovoltaic Solar	3.5	40.0	40.0	Edwards	Withdrawn
R2011-01027	Vandiver	Sunlight Partners	Photovoltaic Solar	3.0	40.0	40.0	Chi	Withdrawn
R2011-01029	Beazel	Sunlight Partners	Photovoltaic Solar	1.5	19.0	19.0	Siemers	Withdrawn
R2011-01030	Owen	Sunlight Partners	Photovoltaic Solar	1.5	20.0	20.0	Siemers	Withdrawn
R2011-01032	Reuschel	Sunlight Partners	Photovoltaic Solar	2.0	25.0	25.0	Edwards	Withdrawn
R2011-01033	Russell	Sunlight Partners	Photovoltaic Solar	2.5	27.0	27.0	Chi	Withdrawn
R2011-01206	Desert Vista Greenworks	Silverado Power	Photovoltaic Solar	25.0	113.0	113.0	Edwards	Withdrawn
R2011-01209	Antelope Valley Greenworks	Silverado Power	Photovoltaic Solar	5.0	30.0	30.0	Blengini	Withdrawn
R2012-01559	Chahin	Sunlight Partners	Photovoltaic Solar	4.0	41.2	41.2	Chi	Withdrawn
R2012-02421	Johnson	Sunlight Partners	Photovoltaic Solar	1.5	19.4	14.0	Edwards	Withdrawn

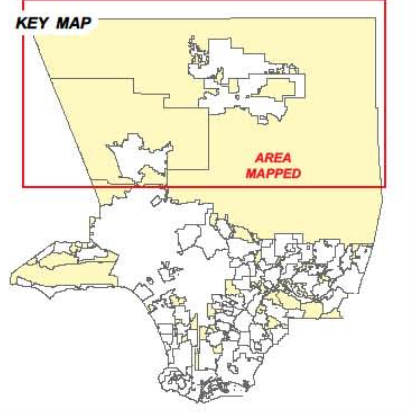







LOS ANGELES COUNTY  
RENEWABLE ENERGY PROJECTS  
ANTELOPE VALLEY (WITH ADOPTED SEAS)

- LEGEND**
- |                        |                          |
|------------------------|--------------------------|
| FREEWAY                | INCORPORATED CITY        |
| MAJOR ROAD             | UNINCORPORATED COMMUNITY |
| RAILROAD               | OTHER COUNTIES           |
| AIRPORT                | EDWARDS AIR FORCE BASE   |
| MAJOR LAKE, AQUEDUCT   | NATIONAL FOREST          |
| MAJOR RIVER, BED, WASH | ADOPTED SEA              |
- APPROVED PROJECTS (5); GROSS ACRES: 4,218 \***
- |             |                              |
|-------------|------------------------------|
| R2008-02069 | ALPINE SOLAR                 |
| R2008-02069 | ALPINE SOLAR ADDITION        |
| R2008-02236 | AV SOLAR RANCH ONE           |
| R2010-08008 | ANTELOPE VALLEY SOLAR - LACO |
| R2012-00549 | RUTAN                        |
- PENDING PROJECTS (10); GROSS ACRES: 12,918**
- |             |                                 |
|-------------|---------------------------------|
| R2010-00256 | WILDFLOWER GREEN ENERGY FARM    |
| R2011-04408 | BLUE SKY WIND ENERGY            |
| R2011-00756 | WESTERN ANTELOPE BLUE SKY RANCH |
| R2011-00756 | AMERICAN SOLAR GREENWORKS       |
| R2011-00801 | SILVER SUN GREENWORKS           |
| R2011-00805 | LANCASTER WAD                   |
| R2011-00807 | ANTELOPE SOLAR GREENWORKS       |
| R2011-00833 | NORTH LANCASTER RANCH           |
| R2012-00024 | QUAIL LAKE PHOTOVOLTAIC SOLAR   |
| R2012-01589 | WEST ANTELOPE SOLAR PROJECT     |

\* ACREAGE TOTAL DOES NOT INCLUDE APPROVED PROJECT IN KERN COUNTY.  
HILLSHADE: LOS ANGELES REGION IMAGERY ACQUISITION CONSORTIUM (LARAC), 2006





LOS ANGELES COUNTY  
DEPT. OF REGIONAL PLANNING  
320 W. TEMPLE ST.  
LOS ANGELES, CA 90012

PRINTED ON: \_\_\_\_\_

0 1 2 3 4  
MILES

REVISED BY DRP GIS SECTION / OCTOBER 2013

NOTE: ADDITIONAL UTILITY-SCALE RENEWABLE ENERGY PROJECTS ARE LOCATED WITHIN THE INCORPORATED CITIES OF LANCASTER AND PALMDALE, BUT ARE NOT DISPLAYED ON THIS MAP. SHOWN HEREIN ARE PROJECTS LOCATED PRIMARILY WITHIN AREAS UNDER THE COUNTY'S JURISDICTION, NAMELY THE UNINCORPORATED COMMUNITIES AND TERRITORY COVERED BY THE ANTELOPE VALLEY AREA PLAN.



# MBCA



## morongo basin conservation association

Post Office Box 24  
Joshua Tree, California 92252  
[www.mbconservation.org](http://www.mbconservation.org)

March 1, 2014

Jeff Childers, Project Manager  
Bureau of Land Management  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Sent via email: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Subject: Draft Plan amendment/ Environmental Impact Statement/ Environmental Impact Report for the Soda Mountain Solar Project

Dear Mr. Childers:

Thank you for this opportunity to comment on the Soda Mountain Solar Project (SMSP). The Morongo Basin Conservation Association (MBCA) is a 501(c) 4, community-based all volunteer California Non-Profit Corporation. The Directors and members of the MBCA have been educating Morongo Basin residents about issues affecting our environmental and economic health since our incorporation in 1969. MBCA is the oldest collective voice for educating the Morongo Basin's citizens about the unique, natural qualities of which they are stewards, and what is needed to preserve those features. Since the placement of industrial solar facilities on vast acreages of the California Desert's public lands effects both the natural environment and the economic well being of all our desert communities we have broadened our area of concern.

### AREAS OF FOCUS

Our comments will focus on four main areas: recreation, socioeconomics (tourism), dust and air quality, and water resources, especially availability.

The proposed Soda Mountain Solar Project is a 350 megawatt photovoltaic facility that includes a project substation, access roads, realignment of an existing route (Razor Route), operation and maintenance buildings, and lay-down areas. The project is proposed on 4,397 acres (6.87 sq. miles) with the solar field occupying approximately 2,691 acres (4.2 sq. miles) straddling both north and south sides of Interstate 15. It would be one of the closest renewable energy projects to a national park unit in the entire southwestern United States. It is however, not the only industrial solar facility to assault visitors to the Preserve. Further east and completely within the viewshed of the Mojave National Preserve (MNP) is the 6.2 sq. miles Ivanpah solar thermal plant (in operation) and the adjacent and recently approved Stateline and Silver State photovoltaic facilities covering 6.4 sq. miles.

### 3.13 RECREATION: REGIONAL AND LOCAL ENVIRONMENTAL SETTING

*For the purposes of the analysis in this section, the “general vicinity” has been defined as the area within 10 miles of the Project site. This study area was selected to consider potential impacts to recreation because it captures all major recreation resources that contribute to baseline conditions and that have the potential to be affected by activities related to the Project.*

Limiting recreational resources to the “general vicinity” of 10 miles is not adequate: it does not *capture all major recreational resources that contribute to baseline conditions affected by activities related to the Project*. it does not include the remainder of the Mojave Desert and the communities that serve the millions of annual visitors to our public lands. Specifically it does not grasp the popularity of the Mojave Desert as a regional tourism destination.

**IN 2013 THE MOJAVE DESERT WAS RECOGNIZED BY NATIONAL GEOGRAPHIC IN TWO SPECIAL TRAVEL ISSUES.**



The Mojave Desert – One of the world’s 100 most beautiful places and unforgettable destinations

The Mojave National Preserve – One of the world’s 100 best kept secret journeys and hidden adventures

**Why do visitors come to the Mojave Desert?** Visitor Surveys at Joshua Tree National Park by the University of Idaho give us the answer. <sup>1</sup>

Views without development	90%
Clean Air	89%
Natural quiet, sounds of nature	87%
Desert plants/wildlife	83%
Native wildlife	81%
Solitude	73%
Dark, starry night skies	65%

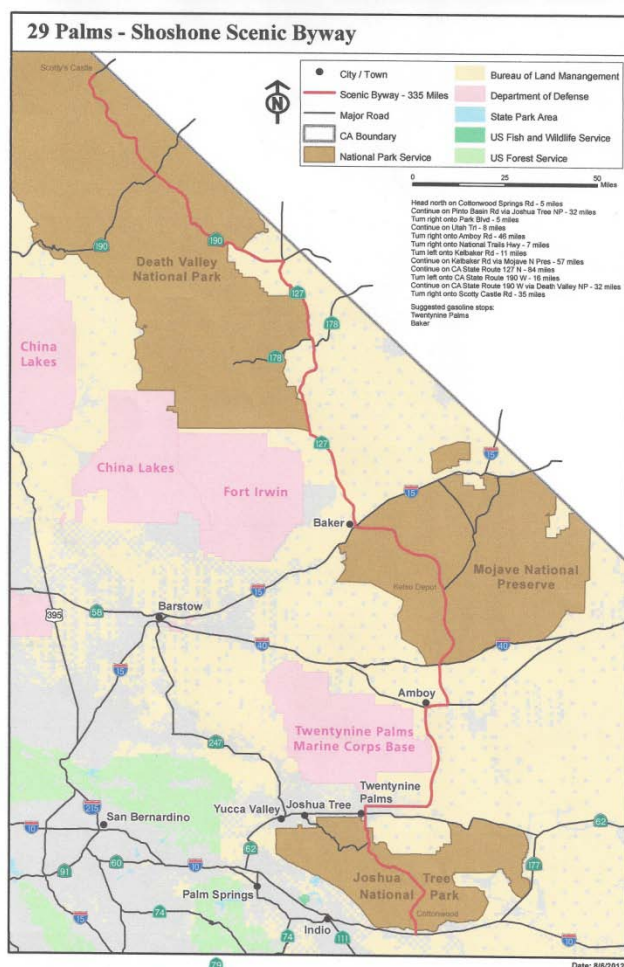
**The “Heart of the Mojave”<sup>2</sup> is accessed from all compass points** on routes grading down from Interstates to state and county paved highways to dirt roads. Linking the three desert national parks is the two lane 29 Palms – to Shoshone Scenic Byway, the most remote and scenic route east of the Sierra Nevada Range. The I-15 ties the coast to the inland deserts, meeting up with the Scenic Byway at Soda Lake and the town of Baker. Travelers on the I-15 are fast and mostly unconcerned as they trace the northern boundary of the Mojave National Preserve on its way to the Nevada border. None-the-less it matters esthetically that the interstate first touches the Preserve (MNP) at the location of the proposed industrial 6.8 square mile Soda

<sup>1</sup> The University of Idaho Visitor Use Study-Winter 2010 (page 63) can be found at <http://www.drecre.com/studiesreports.html>

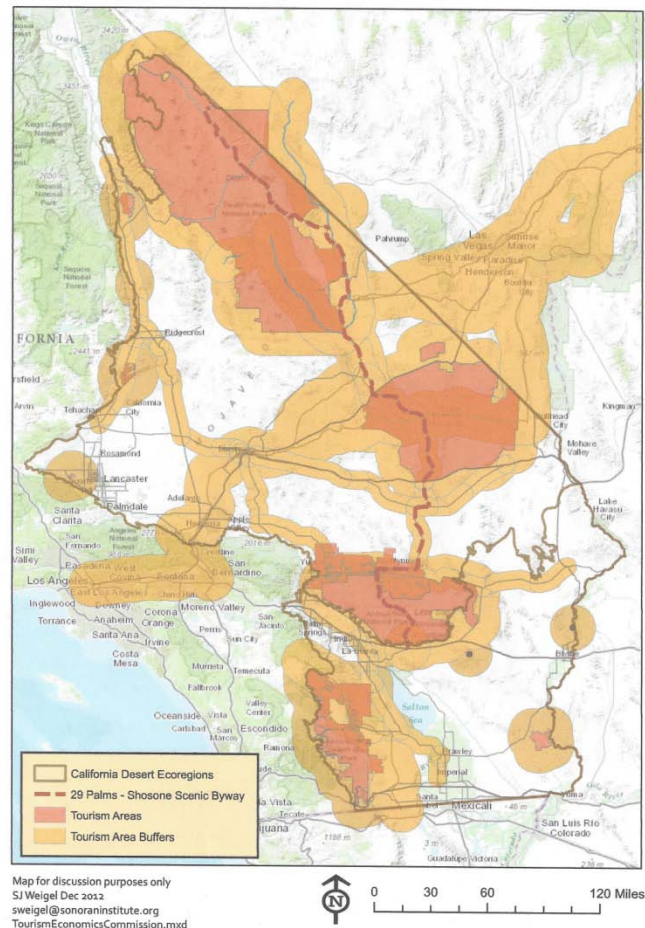
<sup>2</sup> Thanks to the Needles BLM Field Office for this descriptive phrase.

Mountain Solar Project. It leaves the Preserve 51 miles later in the glare of the Ivanpah towers. This is not a nice way to treat one of world's best kept secret journeys and it is bad for business.

### MAPS THAT ILLUSTRATE THE SCENIC ROUTES THAT CONNECT COMMUNITIES, NATIONAL PARKS AND WILDERNESS AREAS<sup>3</sup>



Tourism Economics Commission Important Tourism Areas



Tourist area buffers indicate a desirable viewscape of five miles on either side of the road.

### 3.14 SOCIOECONOMICS

Visitor spending resulting from visits to the national parks and other scenic public lands is a prime economic engine supporting residents, businesses, and jobs in Mojave Desert communities. This economic relationship is significant and ongoing as long as the conditions which invite visitors are ongoing. Please refer back to the 'Why do visitors come?' above. Businesses dependent on tourism understand that visitors can decide to go elsewhere – the national parks and conservation lands in Nevada, Arizona, Utah or New Mexico – if conditions no longer offer the amenities they crave. The tourism based communities are geographically isolated and individuals have few alternative job choices. Tourism dollars enrich communities because they stay in the communities.

<sup>3</sup> The two maps are available, under Economic Information, at <http://www.drecre.com/studiesreports.html>

## **IMPACTS OF ALL JOSHUA TREE NATIONAL PARK AND THE MOJAVE NATIONAL PRESERVE ON VISITOR SPENDING**

“Using all visitor spending and including direct and secondary effects, the \$58.8 million spent by park (Joshua Tree NP) visitors generates \$64.8 million in sales, which support 732 jobs in the local region. These jobs pay \$23.4 million in labor income, which is part of \$37.9 million in value added to the region...Jobs include full and part time jobs. Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as profits and rents to area businesses and sales and excise taxes.”<sup>4</sup>

The updated 2012 figures show the Joshua Tree NP value added is \$70.4 million.

The National Park Conservation Association (NPCA) reports that in 2010 the Mojave National Preserve had over 600,000 recreational visits. The visitors spent over \$13 million in the gateway communities and supported over 200 full and part time jobs. Recreational activities include: hiking, backpacking, bicycling, stargazing, horseback riding, botanizing, wildlife viewing, exploring cultural sites and visitor centers, and, in the MNP only, enjoying OHV travel on certain designated routes.

We acknowledge that similar data is not available for other desert public lands. However, the National Park data is sufficiently robust to make our point.

### **THE DEIS/EIR DOES NOT ADEQUATELY ANALYZE SOCIOECONOMICS AND RECREATION**

The DEIR/EIS only analyzes the effects of short term employment for 215-290 workers who are expected to live within two hours of the site. Only a small impact from the \$755 million “economic output” of the project is anticipated in the desert communities. There is no analysis of the possible project impacts on the tourism economies of the gateway communities. The tourism economies are not short term: they began with the arrival of the railroad and intend to continue long into the future. The report does not include the full range of recreational activities enjoyed in parks and other public lands.

- MBCA requests an analysis of the possible effects of the SMSP on the economies of the desert gateway communities.
- MBCA also request that recreational activities enjoyed on the Mojave Desert public lands be included in the report analysis.

### **MIGRATORY AND RESIDENT BIRDS ALONG THE I-15 CORRIDOR AND THE 29 PALMS TO SHOSHONE SCENIC BYWAY – INFORMATION PERTINENT TO BIOLOGICAL RESOURCES, RECREATION, AND SOCIOECONOMICS**

The following information informs us of the bird species that will encounter the SMSP, if constructed. It also shows the popularity of the area for birders. Birders are excellent tourists in that they tend to stay at local lodging, eat at local restaurants, and buy gas and souvenirs. They are a good proxy for the value of the recreation element not investigated fully in the project Report.

The seasonal occurrence and movement of over 200 bird species in the Mojave Desert area discussed here is recorded on eBird.org, an online resource coordinated by Cornell Laboratory of Ornithology and the National Audubon Society. The balloons on the map (attached at end of letter) are areas where birds are seen, recorded and reported. The following two tables provide the location and Species/Counts. Species means the number of species that have been recorded at that site and Counts is the number of separate occasions that

---

<sup>4</sup> Impacts of Visitor Spending on the Local Economy. Joshua Tree National Park 2010. Natural Resource Report NPS/NRSS/EQD/NRR—2012/511 Prepared by Philip C. Cook, University of Idaho. Page 9. Available, under Economic Information, at <http://www.drecre.com/studiesreports.html>



the site has been visited. Other information not provided here, such as the seasonal occurrence and number of years the site has been monitored is available online.

I recently spoke with Jacob Overson, the General Manager of the Baker CSD, and he told me the birders are a visible attraction themselves during migration. In that small town there are three sites with over 100 bird species recorded in each one.

**Table 1 eBird - Birding hotspots along the I-15 corridor from Barstow to Las Vegas area**

#	Location	Species/Counts	#	Location	Species/Counts
1	Barstow WTP	115/44	11	Baker- behind Denny's	107/82
2	Barstow Ponds	124/108	12	MNP – Pachalka Spring	50/9
3	Daggett Evap. Ponds	117/197	13	MNP – Clark Mt.	109/43
4	Mineola Rd.	17/1	14	Primm Valley Golf Course	121/26
5	Newberry Springs vicinity	103/32	15	Boulder City	22/1
6	Fort Cady Riparian Reserve	53/7	16	Sunset Park	200/205
7	Afton Canyon	78/18	17	Flamingo Wash	75/6
8	Zzyzx	224/384	18	Wetlands Park	195/161
9	Baker WTP	176/230	19	Henderson Bird Viewing	251/551
10	Baker -Chet Huffman Park	118/155	20	Red Rock Canyon NC Area	148/173

**Table 2 eBird - Birding hotspots along the 29 Palms to Shoshone Scenic Byway area**

#	Location	Species/Counts	#	Location	Species/Counts
21	MNP – Kelso Dunes	9/13	30	Tecopa WTP	54/20
22	MNP – Kelso depot	115/86	31	Tecopa	83/12
23	Mojave National Preserve	176/82	32	Kingston Mountains	40/2
24	Salt Creek Hills	61/23	33	Smith Spring	24/18
25	DV – Saratoga Springs	67/13	34	Crystal Spring	100/91
26	China Ranch Date Farm	161/132	35	Beck Spring	63/24
27	Amargosa Canyon	121/18	36	Horse Thief Spring	139/135
28	Shoshone Village	141/99	37	Death Valley Junction	75/32
29	Shoshone – Tecopa Area	72/5	38	Ash Meadows NWR	185/372

#### **MIGRATORY BIRDS, AVIAN MORTALITY, AND MONITORING (3.4-39)**

Essentially, the following quote from the project Report says it all.

*While this measure would help describe the extent of the magnitude of the potential impact to common and special-status avian species, it would not fully reduce the impacts of proposed facilities to individual birds because **avian mortality risks would remain**.* (bold by the author)

The Mitigation measures are, for the most part, only monitoring measures. At this time there is little that can be done to eliminate the attractiveness of a body of water (mirrors) to a hot, tired, and exhausted bird in need of rest and refreshment. We should, however, record what we are doing. Three years will not be sufficient data: birds have been following routes between water sources for millennia. Some of the sites listed in the tables have posted data back to 1900.

- MBCA requests that monitoring data be posted on eBird as a permanent and transparent record.

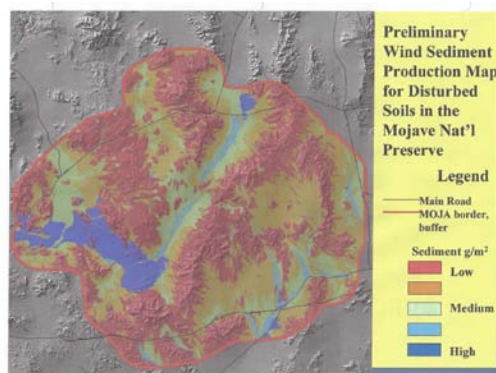
- MBCA requests that bird mortality data be posted on the BLM website in a timely manner.

#### THE DOCUMENT DOES NOT ADEQUATELY ADDRESS FUGITIVE DUST AND WATER QUANTITIES NEEDED FOR SUPPRESSION.

The SMSP estimates it will use 192 AFY to control dust on approximately 2,700 acres or an amount of water equal to **0.07 AF/Acre**. This quantity is similar to amounts projected for construction of the three 100 acre solar fields in the Morongo Basin (MB). In actuality, when completed the MB projects had **used from 0.4 to 0.57 AF/Acre: approximately 10 times the projected amount**. Even so, on occasion downwind residents were subjected to high enough dust levels during construction to warrant staying indoors and the Marine Base issued travel alerts for its exit roads. The completed projects continue to emit dust when winds blow 20 mph and upward.

The project area is located in a narrow basin bracketed by mountains that funnel winds eastward. Baker residents and businesses, as well as interstate travelers are at risk (visibility and health problems) if dust is not adequately controlled. Dust control over a four square mile area could be necessary and continuous for most of the year. That's a lot of water, especially if the wind is drying the ground as fast as it is wetted down. **The project soils are not uniquely different from the sediments in the MB. The need for 192 AF X 10 = 1,920 AFY is a possibility that must be considered** to protect limited groundwater supplies and preserve air quality. The data also indicates the need to wash mirrors more than twice a year so maintenance quantities would also need to be refigured. The possible 10X increase is staggering but based on water use by actual solar projects so it must not be ignored.

#### AIR QUALITY - USGS STUDIES SEDIMENT EROSION IN THE MOJAVE NATIONAL PRESERVE<sup>5</sup>



USGS scientists study the susceptibility of soil surfaces to wind erosion in the southwest and, fortunately for the SMSP project, they have focused locally. The map to the left shows the wind sediment production for disturbed soils in the MNP, including the project area. The table below pulls data from the report's monthly maps that show the % of time during a month that the Threshold Friction Velocity (speed at which particles move) is exceeded. Notice that the Project area has a medium (g/m²) sediment load, while the area immediately south and to the east is high, meaning finer particles. The southwest winds can transport these fine sediments on to the project site throughout

the year.

#### % time per month that a Threshold Friction Velocity (TFV)\* is exceeded on MNP border, buffer

Month	SMSP site**	South of site***	Month	SMSP site	South of site
January	30-40%	50-60%	July	60-70%	70-80%
February	40-50%	60-70%	August	50-60%	70-80%
March	60-70%	70-80%	September	50-60%	70-80%
April	60-70%	70-80%	October	40-50%	60-70%
Map	70-80%	80-90%	November	30-40%	60-70%
June	70-80%	80-90%	December	30-40%	50-60%

\*TFV is the wind speed at which particles move.

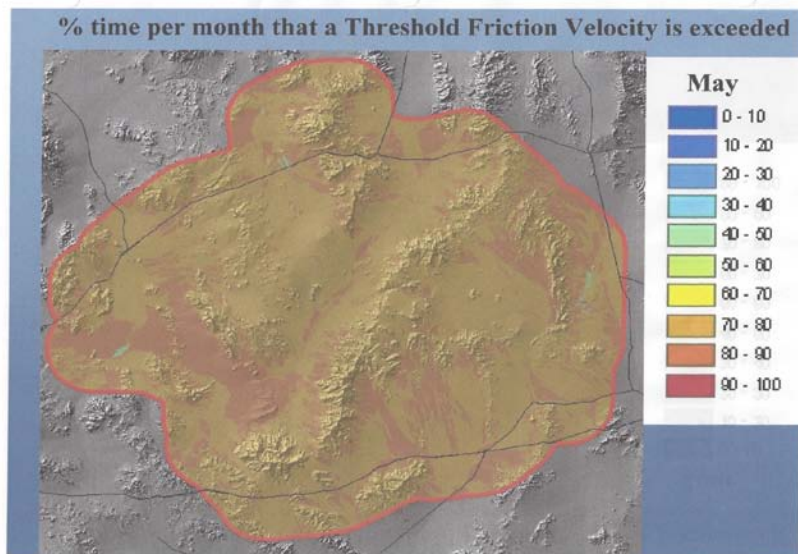
<sup>5</sup> Jayne Belnap et.al. Soil Surface Susceptibility to Wind Erosion. Power Point available at <http://www.drecl.com/studiesreports.html>

\*\* Sediment on SMSP Site is classified as medium

\*\*\*Sediment immediately south of the Project site is classified as high

Sediment= amount of soil blown off the soil surface at high spring wind speeds.

#### EXAMPLE OF MONTHLY MAP



- MBCA requests that the BLM investigate the water quantities actually used during construction of other solar projects on similar desert soils before considering project approval,
- MBCA requests that water quantities used for construction and maintenance on all projects be tracked, reported, and posted on the BLM website. This is the only way we can anticipate the water requirements of industrial scale solar development on our desert aquifers.
- MBCA requests that BLM consult with the USGS scientists to assess the project soils for their susceptibility to wind erosion in all months of the year. The USGS has data sets available to analyze desert soils for wind and water erosion.<sup>6</sup>
- MBCA requests a reevaluation on the wind velocities that trigger operations to be shut down. The 25 and 40 mph velocities may be too high.

#### Water Resources – Impermeable Boundaries – and Upstream Users

The amount of available groundwater to construct and maintain the facility is in dispute. Based on the proponent's groundwater analysis it is possible to acquire enough water for construction and maintenance by pumping water from the alluvial sediments underlying the project site. The report supports pumping without drawing the water down to dangerous levels using two assumptions: total recharge ranging from 343 to 1,373 AFY over an area of 33,000 acres and impermeable bedrock. The Mojave National Preserve<sup>7</sup> challenges these assumptions based on other recharge models that would project very low to zero recharge. Groundwater in the eastern Mojave shows carbon-14 dates in the 20,000 years before present range. It is also pointed out that proof of impermeable no-flow boundaries in the Soda Mountains and underlying bedrock is not supported by field data.

<sup>6</sup> Assessing the Geology of Large Scale Solar Projects – Poster. Available at <http://www.drecr.com/studiesreports.html>

<sup>7</sup> Letter dated November 21, 2012 and received by BLM on November 27, 2012

A transparent (this project is on public land) water supply analysis would consider alternative scenarios; i.e., that the groundwater is not recharged annually, if ever; the boundaries are fractured and the water basins are connected. A complete analysis would consider the possible adverse effects to the spring at Zzyzx, the federally endangered Mojave tui chub, and on the community wells for Baker.

Baker is the closest water district to the project and the one stop shop for Interstate travelers between Barstow and Primm Nevada. What happens if the Baker water supply is compromised? Baker is six miles to the east of the project, but like the Zzyzx spring, it is next door, and possibly connected, when it comes to water.

The town of Baker has been around since 1908, starting life as a station on the Tonopah and Tidewater Railroad. It has a population of approximately 500 people and continues to exist because of its location at the crossroads of I-15 and Hwy. 127. There are 8 service stations, 16 restaurants, several of which are within the 3 Service Centers, 2 hotels, 2 mechanics, 3 tow truck companies, County fire station, Volunteer fire station, 2 ambulances, a K-12 school with a swimming pool, Chet Huffman Park (118 bird species), and a large number of restroom facilities.

Three hundred (300) AFY of water is required to support the town's enterprises, which in turn support the needs of the residents and hundreds of thousands, if not millions of travelers yearly. The Water Treatment Plant, a series of wetlands, supports the traveling needs of 176 bird species and numerous birders. If something should happen to the town's water supply ; if they are required by the county to greatly increase withdrawal because of unforeseen SMSP water needs, the town could go dry and out of business. Please refer back to the Morongo Basin experience on page 6 of this letter. No one wants that to happen. How foolish to overlook the possibility.

- MBCA requests that BLM get an independent evaluation of the water resources for the SMSP. This is reasonable since fractured rock basins are difficult to analyze and known to be permeable.
- MBCA requests that independent evaluation include the possible outcomes of a permeable boundary for the Zzyzx spring and for the town of Baker, its residents, businesses, and the traveling public. Outcomes include possible extirpation of the federally endangered Mojave tui chub, regional air quality, water resources, and socioeconomics.

## **RECAP**

Thank you for your consideration of the points we have made in letter. We wrote from a compelling need to share our experiences in the Morongo Basin which have relevance to all our public lands and the gateway communities that steward them and are supported by them. We made the following requests for your consideration:

- MBCA requests an analysis of the possible effects of the SMSP on the economies of the desert gateway communities.
- MBCA also request that recreational activities enjoyed on the Mojave Desert public lands be included in the report analysis.
- MBCA requests that monitoring data be posted on eBird as a permanent and transparent record.
- MBCA requests that bird mortality data be posted on the BLM website in a timely manner.
- MBCA requests that the BLM investigate the water quantities actually used during construction of other solar projects on similar desert soils before considering project approval,

- MBCA requests that water quantities used for construction and maintenance on all projects be tracked, reported, and posted on the BLM website. This is the only way we can anticipate the water requirements of industrial scale solar development on our aquifers.
- MBCA requests that BLM consult with the USGS scientists to evaluate the project and assess the project soils for their susceptibility to wind erosion in all months of the year. The USGS has data sets available to analyze desert soils for wind and water erosion.
- MBCA requests a reevaluation on the wind velocities that trigger operations to be shut down. The 25 and 40 mph velocities may be too high.

#### IN CLOSING

MBCA believes there is no compelling need to produce 350 MW of solar power at this particular location, adjacent to the Mojave National Preserve, while mining a poorly studied water source, possibly threatening the existence of the Mojave tui chub, and diminishing the beauty of this “unforgettable destination” with dust clouds blowing off four to six square miles of degraded land. We suggest Bechtel search for more suitable land, already degraded and without biological resource issues (no big horn sheep, desert tortoise, burrowing owls, crucifixion thorn), which is also close to transmission lines. We recommend that the BLM adopt Alternative G –Site Unsuitable for Solar, No BLM ROW, and No County Permit

If you should wish to contact me about this letter I can be reached at the contact information below.

Sincerely,



Pat Flanagan, Board Member  
Morongo Basin Conservation Association  
[Patflanagan29@gmail.com](mailto:Patflanagan29@gmail.com)

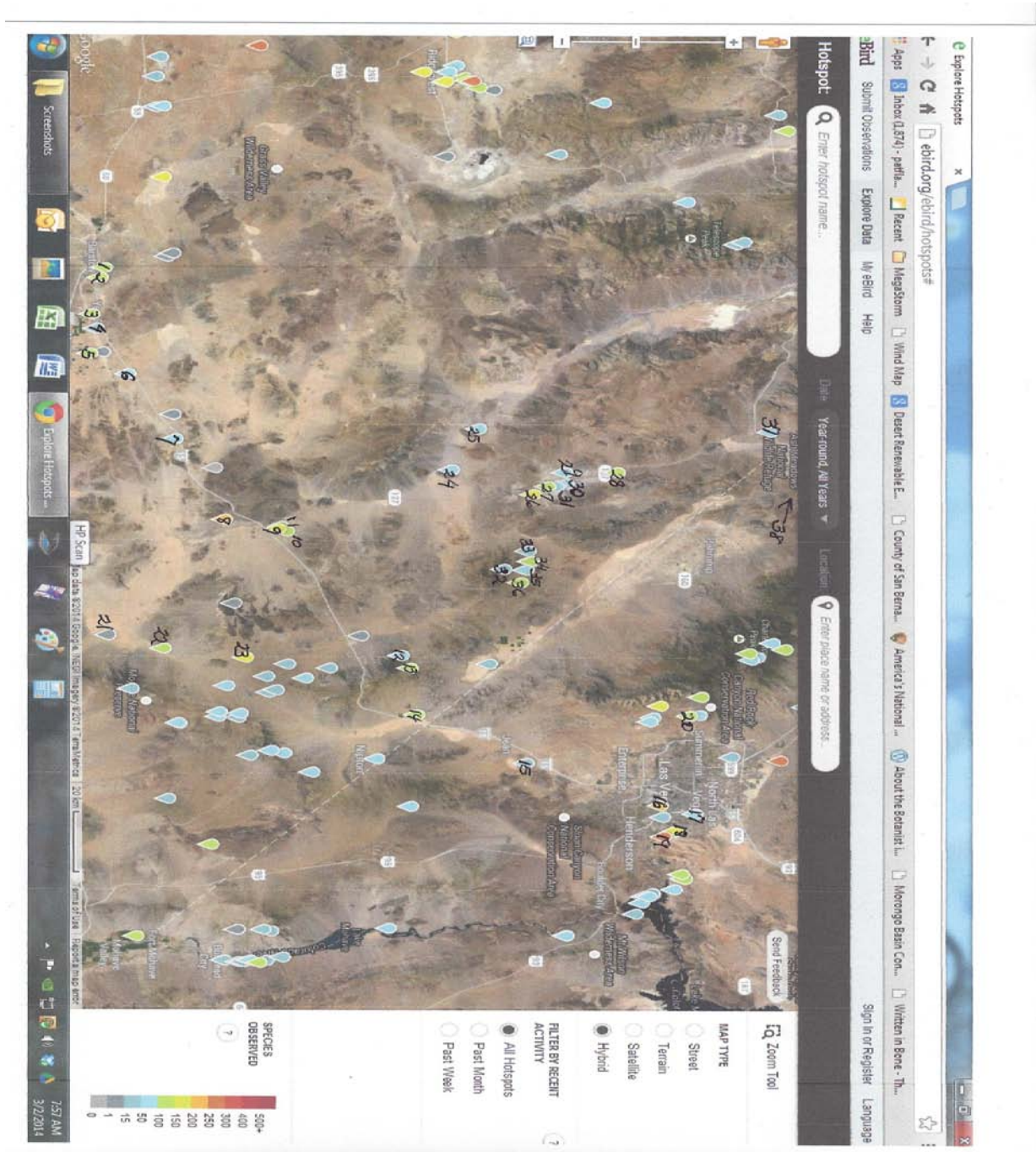
Attachment: Map – eBird locations Mojave Desert

CC:

MBCA Board Members  
Teri Raml, BLM Desert District Manager  
Katrina Symons, Barstow Field Manager  
Jacob Overson, Baker CSD, General Manager  
Debra Hughson, Chief Scientist, Mojave National Preserve  
Terry Weiner, Desert Protective Council  
Seth Shteir, National Parks Conservation Association  
David Lamfrom, National Parks Conservation Association  
Paul Smith, Tourism Economic Commissio



eBird location map for hot spots in the Mojave Desert with an emphasis on Barstow to Las Vegas on the I-15 and Hwy 127 from the Mojave National Preserve to Death Valley





Hotspot: 

Date: Year-round, All Years

Location: 

Zoom Tool

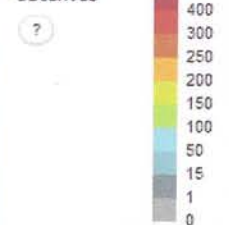
## MAP TYPE

- ☐ Street
- ☐ Terrain
- ☐ Satellite
- ☒ Hybrid

## FILTER BY RECENT ACTIVITY

- ☒ All Hotspots
- ☐ Past Month
- ☐ Past Week

## SPECIES OBSERVED



Screenshots

Explore Hotspots ...

7:57 AM

3/2/2014

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, March 05, 2014 7:49 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Mojave Desert Land Trust Comments on Soda Mountains Solar Environmental Impact Statement (CACA 49584)  
**Attachments:** Mojave Desert Ecoregional Assessment 2010.pdf

----- Forwarded message -----

**From:** **Frazier** <[frazier@mojavedesertlandtrust.org](mailto:frazier@mojavedesertlandtrust.org)>  
**Date:** Mon, Mar 3, 2014 at 8:39 PM  
**Subject:** Mojave Desert Land Trust Comments on Soda Mountains Solar Environmental Impact Statement (CACA 49584)  
**To:** "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

March 3, 2014

Jeffery Childers

Soda Mountain Solar Project Manager

22835 Calle San Juan De Los Lagos

Moreno Valley, CA 92553

Re: CACA 49584 – Soda Mountains Solar Environmental Impact Statement

Dear Mr. Childers:

Mojave Desert Land Trust (MDLT) appreciates the opportunity to comment by this email on the Soda Mountains Solar Project Draft Environmental Impact Statement (CACA 49584). MDLT is a 501c.3 non-profit public benefit corporation whose mission is “To protect the Mojave Desert’s ecosystem, and its scenic and cultural resource values.” Created in 2005 to serve as a regional land trust for the California Desert, MDLT has purchased over 47,000 acres of land inside the California Desert Conservation Area worth an estimated \$18 million, and continues to be a key partner to the Bureau of Land Management and the National Park System through conveyance of purchased inholdings inside designated wilderness areas and national parks. Most importantly for this project, MDLT has purchased over 17,000 acres in Mojave National Preserve, 3,330 acres in the Cady Mountains Wilderness Study area, as well as hundreds of acres in the adjacent Soda Mountains Wilderness Study Area and the Hollow Hills Wilderness.

Much of the land that MDLT has purchased to date has been to protect core areas of species habitat and integrity of conservation lands.. We have a great concern that Soda Mountains Solar will directly impact this



investment in a number of ways, and that impacts from the projects are not possible to mitigate. Therefore, we are recommending the Bureau of Land Management deny the issuance of a Right of Way and encourage the applicant to choose a location that does not cause impacts to pristine public lands.

MDLT is not the only group that has made significant investments in land acquisition for conservation purposes in this region. The Department of the Navy, The Wildlands Conservancy, and the Land and Water Conservation Fund, among others, have invested tens of millions of dollars in the area of Soda Mountains Solar to protect open space and habitat leading to the conservation of hundreds of thousands of acres. Permitting this project runs counter to and violates the public trust of private, state, and federal conservation investments made in the region for the last three decades.

Impacts to the very sensitive water resource at MC springs downstream from the proposed project are of great concern as well. Despite the assurances from the project applicant that the spring will not be impacted, more studies need to be completed regarding impacts of removing water upstream of the only remaining habitat for the highly endangered Mojave Tui Chub (*Gila bicolor mohavensis*). Possible effects of the project on this species are profound, as the chub is obligate to the small ponds created at MC spring. The Environmental Impact Statement fails to consider the ramifications of this effect thoroughly, and also fails to consider the effect of a greater degree of water use than estimated by the applicant. The estimates of water use on the project are likely to be much higher than predicted by the applicant. If small scale projects like the Cascade project near Joshua Tree, California are any indication, the project applicant's water use estimate could off by a degree of magnitude.

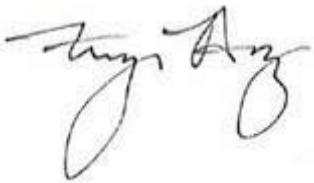
Perhaps most importantly, the Mojave Desert Ecoregional Assessment [\[i\]](#) (attached as PDF) points to the project area as "biologically core" to the desert bighorn sheep population. Indeed, this valley appears to be one of the only connections between populations in the Mojave National Preserve and populations and habitat to the north. Furthermore, the area is demonstrated habitat for the threatened desert tortoise and has important desert wash features that are completely intact. Destruction of the natural features in the project footprint, even in the modified alternatives that reduce the footprint, will have serious unmitigable impacts on desert wildlife in the area.

We also request that all public meetings be recorded in the future. The lack of any public record from the Yucca Valley and Barstow meetings in January 2014 was unacceptable.

We respectfully request that the Bureau of Land Management deny the project applicant a Right of Way permit and direct the developer to a location with fewer resource conflicts.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Frazier Haney", written in a cursive style.

Frazier Haney

Frazier Haney

Conservation Director

Mojave Desert Land Trust

61732 29 Palms Highway

Joshua Tree, CA 92252

(760) 366-5440

[Frazier@MojaveDesertLandTrust.org](mailto:Frazier@MojaveDesertLandTrust.org)

[www.MojaveDesertLandTrust.org](http://www.MojaveDesertLandTrust.org)

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[i] Randall, John M. et al 2010. Mojave Desert Ecoregional Assessment



**San Bernardino Valley  
Audubon Society**

Bureau of Land Management  
California Desert District  
Attn: Jeff Childers, Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553  
Email: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Via Email

March 3, 2014

**Re: Comment on the Draft Plan Amendment/Environmental Impact  
Statement/Environmental Impact Report for the Soda Mountain Solar  
Project (CACA 49584)**

Dear Mr. Childers:

We write on behalf of the National Parks Conservation Association (NPCA) and the San Bernardino Valley Audubon Society (SBVAS) to urge the Bureau of Land Management (BLM) and the County of San Bernardino (County) (collectively, Lead Agencies) to revise the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report (Draft PA/EIS/EIR) for the Soda Mountain Solar Project (Project), and to allow the public sufficient time to provide written comments and testimony at a public hearing regarding the revised document. NPCA is an organization dedicated to protecting and enhancing America's national parks and has more than 800,000 members and supporters. SBVAS is southeastern California's leading non-profit engaging people in the conservation of birds and their habitats and has 2000 active members. We also incorporate the comments submitted by the Defenders of Wildlife.

The Project, proposed by Soda Mountain Solar, LLC (Applicant), consists of the construction, operation, maintenance, and decommissioning of a utility scale (approximately 358-megawatt) solar photovoltaic (PV) facility on over 4,000 acres of land, adjacent to the Mojave National Preserve (Preserve), near Baker, California. The Draft PA/EIS/EIR was prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). NEPA has two aims. "First, it places upon an agency the obligation to consider every significant aspect of the environmental impact of the proposed action. Second, it ensures that the

agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.” *Baltimore Gas & Electric Co., v. NRDC*, 462 U.S. 87, 97 (1983); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989) (an Environmental Impact Statement (EIS) serves an “informational role” and provides a “springboard for public comment”).<sup>1</sup>

The Draft PA/EIS/EIR fails to fulfill its role as an “informational document” under NEPA and CEQA. The Draft PA/EIS/EIR contains several deficiencies, including the following:

- The purpose and need statement is too narrow. As a result, the Draft PA/EIS/EIR considers an insufficient range of alternatives;
- The analysis of the hydrological impacts is inadequate;
- The mitigation measures for the hydrological impacts are inadequate;
- The analysis regarding the impacts to the Mohave tui chub is inadequate;
- The Draft PA/EIS/EIR improperly minimizes the importance of the Project site for the desert bighorn sheep populations by failing to emphasize the significance of the Soda Mountains region for connectivity between the species’ metapopulation fragments;
- The Draft PA/EIS/EIR uses misleading assumptions about the desert tortoise, presents the analysis of impacts to the desert tortoise in a confusing manner, and provides inadequate information for the Lead Agencies to properly analyze the impact to the species;
- The Draft PA/EIS/EIR fails to adequately analyze the Project’s indirect effects;
- The visual resources analysis is inadequate;
- The Draft PA/EIS/EIR fails to adequately discuss the cumulative impacts of the Project; and
- The Draft PA/EIS/EIR does not properly consider applicable land use plans.

NPCA and SBVAS are particularly concerned about the placement of this large utility-scale renewable energy project adjacent to the third-largest National Park Service

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<sup>1</sup> The basic purpose of an EIR under CEQA is similar. An Environmental Impact Report (EIR) must “inform the public and its responsible officials of the environmental consequences of their decisions before they are made.” *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 564 (1990).



(NPS) area outside of Alaska and its potential impact on sensitive and protected species. It is critical that the Draft PA/EIS/EIR contain all the information and analysis essential to making informed decisions about moving forward with the Project. BLM and the County must revise the Draft PA/EIS/EIR and make the revised document available for public review and comment. In addition, the County should deny the application for a groundwater extraction permit because the Project will overdraft the aquifer and adversely affect the health of Soda Spring and its associated biological resources.

**I. THE PURPOSE AND NEED STATEMENT IS UNREASONABLY NARROW, THEREBY ESTABLISHING AN INSUFFICIENTLY BROAD RANGE OF ALTERNATIVES**

The purpose and need statement has broad implications for the entire project; it influences the range of alternatives considered in an EIS. “It is from this statement that the agency [and the] public ... may begin to judge whether the agency has fully analyzed the possible impacts of the action and reviewed a reasonable range of alternatives to that action.” *Soda Mountain Wilderness Council v. Norton*, 424 F. Supp. 2d 1241, 1261 (E.D. Cal. 2006). In defining the purpose and need for a particular action, “agencies must look hard at the factors relevant to the definition of purpose.” *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991). In doing so, the agency should look to Congress’ intent in authorizing the agency to act. When defining the purpose and need for a project “an agency should always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency’s statutory authorization to act, as well as in other congressional directives.” *Id.* Ultimately, “an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency’s power would accomplish the goals of the agency’s action.” *Citizens Against Burlington*, 938 F.2d at 196.

In this case, the purpose and need statement in the Draft PA/EIS/EIR narrowly focuses on the issuance of a right-of-way (ROW) for a solar PV facility. The Draft PA/EIS/EIR’s singular focus on solar technology is significantly narrower than Congress’ intent in authorizing the BLM to grant ROWs on public lands. The Federal Land Policy Management Act (FLPMA) is the authorizing statute for the BLM’s action. FLPMA authorizes the BLM to “manage the public lands under [the] principle of multiple use ....” 43 U.S.C. § 1732(a). The statutory definition of “multiple use” in FLPMA includes “a combination of balanced and diverse resource uses ....” 43 U.S.C. § 1702(c). Here, the BLM’s purpose and need statement is narrower than Congress intended in authorizing BLM to act. As stated in the Draft PA/EIS/EIR, “the BLM’s purpose and need for the Project is to respond to the Applicant’s application under Title V of the FLPMA (43 U.S.C. § 1761(a)(4)) for a ROW grant to construct, operate, maintain and decommission a solar PV facility on public lands.” Draft PA/EIS/EIR at 1-3. This statement of purpose and need focuses entirely on solar energy generation, whereas FLPMA indicates that Congress intended the BLM to manage public lands while taking into account “a combination of balanced and diverse resource uses.” 43 U.S.C. §§ 1732(a); 1702(c). Furthermore, Congress authorized the BLM to grant ROWs for all forms of electricity generation, not just solar projects. 43 U.S.C. § 1761(a)(4). The Draft

PA/EIS/EIR's narrow purpose and need statement improperly forecloses the consideration of other alternatives that are also capable of meeting the need for renewable energy with a lower impact on the environment.

A purpose and need statement is unreasonably narrow where an agency allows private interests to define the purpose and need for a project. *National Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2009). In that case, the Ninth Circuit found the BLM's purpose and need statement was unreasonably narrow because it adopted private interests that "necessarily and unreasonably constrained the possible range of alternatives." <sup>2</sup> *Id.* at 1071. Here, the BLM improperly adopts the Applicant's objectives as its own, thereby establishing an unreasonably narrow purpose and need for the proposed action. Although the Draft PA/EIS/EIR initially asserts much broader objectives, such as the generation and transmission of electricity from any renewable energy source, the Draft PA/EIS/EIR fails to discuss them in further detail and does not consider those objectives in its alternatives analysis. Draft PA/EIS/EIR at 1-3. By ignoring the BLM's objectives in stating the purpose and need, the Draft PA/EIS/EIR improperly narrows the purpose and need statement. As a result, the Draft PA/EIS/EIR rejects from consideration alternatives that are consistent with the agency's broader objectives and requirements. Therefore, the BLM must revise the Draft PA/EIS/EIR to expand its purpose and need statement to include the agency's broad objective of generation and transmission of electricity from alternative renewable energy sources.

## **II. THE DRAFT PA/EIS/EIR FAILS TO CONSIDER A REASONABLY FULL RANGE OF ALTERNATIVES**

The Lead Agencies fail to analyze a reasonably full range of alternatives in the Draft PA/EIS/EIR. NEPA requires an EIS to include a discussion of alternatives to the proposed action. 42 U.S.C. § 4332(C). The alternatives requirement "is the heart of the environmental impact statement." 40 C.F.R. § 1502.14. In *Vermont Yankee Nuclear Power Corporation v. Natural Resources Defense Council, Inc.*, the Supreme Court held

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<sup>2</sup> The BLM considered a proposal for a land exchange with a private company that wanted to develop a landfill on land owned by the BLM. In its purpose and need statement, the BLM set four goals for the project: to meet long-term landfill demand; to provide a long-term income source from a landfill; to find a viable use for mine byproducts; and to develop long-term development plans for the town site. *National Parks & Conservation Ass'n*, 606 F.3d at 1071. The court found that, while the first objective was a valid BLM purpose, the remaining three were private objectives that "necessarily and unreasonably constrained the possible range of alternatives." *Id.* at 1072. The BLM Handbook also indicates that "[t]he purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant's or external proponent's purpose and need." Bureau of Land Management, BLM National Environmental Policy Act Handbook H-1790-1 at 35 (2008) (Hereafter referred to as BLM NEPA Handbook).

that “the concept of alternatives must be bounded by some notion of feasibility.” *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 551 (1978). In analyzing such feasible alternatives, agencies are required to consider “a reasonably full range of alternatives.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 813 (9th Cir. 1999).

Similarly, one of the purposes of an EIR under CEQA is to identify alternatives to the project. Cal. Pub. Res. Code § 21002.1(a). CEQA requires an EIR to “consider a reasonable range of alternatives to the project.” *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 566 (1990). Here, the Lead Agencies fail to consider the requisite range of alternatives by eliminating from consideration other types of renewable energy projects, as well as alternative site locations for the Soda Mountain Solar Project. As such, the Lead Agencies must revise the Draft PA/EIS/EIR to provide an adequate analysis of alternatives to permit a reasoned and informed choice among alternatives.

**A. The Lead Agencies Unreasonably Reject Alternative Forms of Renewable Energy Projects, Thereby Limiting the Range of Alternatives Considered**

The Draft PA/EIS/EIR fails to consider a reasonably full range of alternatives by rejecting from full consideration alternative forms of renewable energy. The Draft PA/EIS/EIR justifies this limitation by stating that such alternative technologies do not conform to the narrow purpose and need statement.

A failure to consider a full range of alternatives exists where an agency’s EIS indicates a “privileging of one form of use over another.” *Or. Natural Desert Ass’n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1124 (9th Cir. 2008). In that case, the BLM considered a plan that would allow off-road vehicle use in a remote area in southeastern Oregon. *Id.* In doing so, the BLM only considered alternatives that would increase the area in which off-road vehicle use was allowed. *Id.* Although the BLM considered alternatives that would limit such use, none of the alternatives considered closing more areas to such use. *Id.* As such, the BLM privileged off-road vehicle use over other uses of the land. *Id.*

Much like the BLM’s proposal in *Oregon Natural Desert*, the proposal here indicates a bias in favor of one form of land use by considering alternatives that would only allow for a solar PV facility. The alternatives propose limitations on the size of the facility, but do not propose an alternative form of use for the land. Although the Draft PA/EIS/EIR briefly mentions alternative forms of renewable energy, it summarily rejects such forms as being inconsistent with the purpose of the Project. Draft PA/EIS/EIR at 2-41. The Draft PA/EIS/EIR ignores the BLM’s broad objectives, which could be met using alternative forms of renewable energy. Therefore, the Lead Agencies incorrectly conclude that alternative forms of renewable energy are inconsistent with the purpose and need of the Project.

The Lead Agencies must expand the range of alternatives considered so that they can properly address the broad problem at hand. *Natural Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972). In that case, the Court of Appeals for the D.C. Circuit required the Department of Interior to broaden its analysis to include alternatives that were outside its jurisdiction, in order to deal with the energy crisis gripping the nation in the early 1970s. *Morton*, 458 F.2d at 836. Here, the Lead Agencies attempt to deal with reducing the reliance on and use of fossil fuels and increasing the use of renewable energy, a problem that affects the entire country. As a result, the Lead Agencies should not limit their analysis of alternatives to one form of renewable energy. Rather, they must expand their analysis of alternatives to include other forms of renewable energy.

**B. The Lead Agencies Further Limit the Range of Alternatives by Considering Only One Feasible Project Site**

The Draft PA/EIS/EIR's alternatives analysis is also inadequate because it fails to consider alternative sites for the Project. The Lead Agencies reject an entire category of alternative sites based on a cursory review of a small number of alternative sites they deemed were either too small or otherwise incompatible with the objectives of the Project. Because the Draft PA/EIS/EIR does not consider other sites for the Project, the Lead Agencies and the public cannot compare the relative environmental impacts that the Project may have if built on an alternative location with the environmental impacts the Project will have at the proposed site.

**1. *The Draft PA/EIS/EIR Summarily Rejects an Entire Category of Previously Disturbed Alternative Sites Based Upon a Limited Review of Three Examples of Such Sites***

An agency must consider alternative sites for a project that is "broadly framed in terms of service to the public benefit." *Methow Valley Citizens Council v. Reg'l Forester*, 833 F.2d 810, 815 (9th Cir. 1987). In *Methow Valley*, the Forest Service considered issuing a permit to allow for development of a ski resort on national forest land. The court found that this proposal was framed to serve the public benefit, and therefore "investigation was warranted to determine whether [the project] could be pursued at alternatives sites." *Id.*

As in *Methow Valley*, the Project is "framed in terms of service to the public benefit." *Id.* Although the stated purpose and need is narrowly construed in terms of benefit to the Applicant, the broader agency objectives discussed above indicate that the Project would provide safe and environmentally sound energy production. Draft PA/EIS/EIR at 1-3. Furthermore, it would help the BLM reach its goal of providing 20,000 MW of renewable energy on public lands. *Id.* These objectives clearly would benefit the public. Therefore, the Lead Agencies have a duty to consider a reasonably full range of alternative sites.

The Lead Agencies fail to meet the requirement to investigate alternative sites by eliminating from full consideration alternative sites that were previously disturbed. The Lead Agencies state that they reject three of these sites because they are not “of sufficient size to accommodate any of the action alternatives.” Draft PA/EIS/EIR at 2-40. However, the Lead Agencies reject the entire category of previously disturbed alternative sites based on a review of only three sites, which are 10-acre, 29-acre, and 46-acre sites respectively. *Id.* Sites of this size clearly could not support the Project, which is intended to be 4,179 acres. As such, these particular sites could not be deemed reasonable, feasible alternatives, but this limited review should not result in the Lead Agencies rejecting the entire category of previously disturbed sites from full consideration.

**2. *The Draft PA/EIS/EIR Fails to Comply with NEPA by Rejecting Alternatives That Partially Achieve the Project’s Objectives***

The Draft PA/EIS/EIR must consider alternatives even if they do not accomplish all of the objectives of the Project. *Natural Resources Defense Council, Inc. v. Callaway*, 524 F.2d 79, 93 (2d Cir. 1975). Here, the Draft PA/EIR/EIS only briefly mentions, and subsequently rejects, another potentially feasible site, the National Training Center at Fort Irwin. Draft PA/EIS/EIR at 2-40. In eliminating it from further consideration, the Draft PA/EIS/EIR does not conclude that that site is infeasible. Rather, it rejects that site because it is not big enough to accommodate the size of the Project in its current form, and it is 20 miles from a transmission line. *Id.*

The reason given for rejecting this site is not that it is infeasible because it does not meet any of the Project’s objectives, but rather that it falls short of only a few of these objectives. The Fort Irwin site would still accomplish some of the Project’s objectives. For example, it would still achieve the goal of approving a renewable energy project on public lands. Moreover, although the site allegedly would not accommodate any of the existing action alternatives, the Lead Agencies did not indicate that the site was not appropriate for an alternative of a different size.

The Lead Agencies also state that, out of 11,000 previously disturbed sites identified by the Environmental Protection Agency in California, none were chosen for further consideration because the Lead Agencies could not find any along Interstate 15 between Barstow and Las Vegas. *Id.* The preferred goal of locating the Project along Interstate 15 is not even mentioned as a Project objective. Rather, the Draft PA/EIS/EIR discusses locating the Project near any highway. Draft PA/EIS/EIR at 1-4. Therefore, it was improper for the Lead Agencies to reject thousands of potential alternative sites simply because they are not located near one of the several highways in the region.<sup>3</sup> As such, the stated reason for rejecting these sites is insufficient to comply with NEPA.

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<sup>3</sup> As shown in Appendix M, there are vast areas of land that may have the potential to achieve some of the Project’s objectives. Therefore, the Lead Agencies should have investigated them.

Therefore, the Lead Agencies must broaden the range of alternative sites considered in order to genuinely analyze all feasible alternatives as required by NEPA and CEQA.

### **III. THE DRAFT PA/EIS/EIR'S ANALYSIS OF HYDROLOGICAL IMPACTS IS INADEQUATE**

A central objective of NEPA is to ensure informed decisionmaking when considering projects that have a significant effect on the environment. *Vermont Yankee*, 435 U.S. at 558. A lead agency must “insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.” 40 C.F.R. § 1502.24. Furthermore, an agency may not knowingly rely on incorrect assumptions or data in an EIS. *Native Ecosystems Council v. U.S. Forest Service, an agency of U.S. Dept. of Agriculture*, 418 F.3d 953, 964-65 (9th Cir. 2005). “NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making.” *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998).<sup>4</sup>

The Draft PA/EIS/EIR’s conclusion that the Project’s use of groundwater will have no significant effects on sensitive water sources located within the Mojave National Preserve is not supported by adequate data or analysis. Draft PA/EIS/EIR at 3.19-26-27. The deficiencies in the Draft PA/EIS/EIR’s hydrology analysis are detailed in the Technical Memorandum by Tom Myers, which is incorporated in full and attached hereto as Appendix H. For example, the Draft PA/EIS/EIR’s hydrological analysis is inadequate for several reasons, including but not limited to:

- The Draft PA/EIS/EIR’s estimated recharge rate of 3-10 percent is too high and is not substantiated by adequate data or analysis. First, BLM determined that this range of recharge was reasonable “[b]ased on BLM staff’s experience elsewhere . . . .” Draft PA/EIS/EIR at 3.19-8. This is not an adequate basis for determining the recharge rate because it cannot be reviewed to assess its validity. Second, to the extent that the Draft PA/EIS/EIR cites to recharge rate from other studies to provide an inference that these other rates are the basis for the 3-10 percent recharge rate the Draft PA/EIS/EIR relies on, those studies are not an appropriate basis for establishing a range of recharge for the Soda Mountain area. Those other studies deal with areas that receive far greater precipitation than the Soda Mountains, which receive less than 5 inches/year. Draft PA/EIS/EIR at 3.3-2; Myers, *supra*, at 2.

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<sup>4</sup> Under CEQA, an EIR must be prepared with a sufficient degree of analysis to provide decision-makers with the information needed to make an intelligent decision concerning a project's environmental consequences. 14 Cal. Code Regs. § 15151. An EIR must contain facts and analysis, not just an agency's bare conclusions or opinions. *Citizens of Goleta Valley*, 52 Cal. 3d at 568.



- The Draft PA/EIS/EIR concludes that there will be no impact on Soda Spring because the aquifer beneath Soda Mountain Valley from which the Project will withdraw water is not connected to the source of water for Soda Spring. The Draft PA/EIS/EIR overstates the conclusion that the bedrock between Soda Mountain Valley and Soda Spring is impervious, despite also recognizing that the bedrock is medium to highly fractured. Draft PA/EIS/EIR at 3.7-2. Additional modeling should have been conducted to better assess the level of uncertainty regarding permeability and connection between Soda Mountain Valley and Soda Spring. Myers, at 3-4.
- Additionally, the Draft PA/EIS/EIR incorrectly concludes that the water from Soda Spring originates from alluvial fan deposits. Draft PA/EIS/EIR App. H.3-30. The Draft PA/EIS/EIR draws this conclusion from the fact that “water from the springs was similar in stable isotopes and inorganic chemistry to water on the alluvial fan.” *Id.* However, tritium data shows that the Soda Spring water is more than 60 years old. *Id.* If both of these conclusions are correct, then water flow would be extremely slow, moving only 500 feet in 60 years. Myers, at 6. Therefore, the conclusion that the water in Soda Springs is 60 years old indicates that it is unlikely that the water discharging from the spring is the same as found in the alluvial fan deposits. Myers, at 6. Furthermore, this implies that the water from Soda Spring originates from an unknown source, and could include significant flows from Soda Mountain Valley.
- To the extent that the Draft PA/EIS/EIR acknowledges that there is uncertainty regarding whether the Project’s pumping will impact Soda Spring, the Draft PA/EIS/EIR does not adequately explain the potential risks to the spring and related biological resources associated with proceeding with this level of uncertainty. *See e.g.* Section V below.

As a result, the Draft PA/EIS/EIR’s hydrology analysis is inadequate, and it fails to inform decisionmakers about the potentially significant effects the Project may have on sensitive hydrological resources in the Mojave National Preserve and their associated biological resources.

#### **IV. THE DRAFT PA/EIS/EIR PROVIDES INADEQUATE MITIGATION FOR THE HYDROLOGICAL IMPACTS**

The Lead Agencies do not include adequate mitigation measures that will sufficiently reduce the adverse impacts related to the groundwater pumping for the Project. Mitigation Measure 3.19-3 is too speculative and has not yet been formulated. Therefore, it is not an adequate mitigation measure. A “perfunctory description” of a mitigation measure is not adequate to satisfy NEPA’s requirements.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir.1998). “A ‘mere listing’ of mitigating measures, without supporting analytical data, also is inadequate.”

*Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998) . Similarly under CEQA, “[a]n EIR is inadequate if ‘[t]he success or failure of mitigation efforts ... may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR.’” *Pres. Wild Santee v. City of Santee*, 210 Cal. App. 4th 260, 281 (2012).

The Draft PA/EIS/EIR concludes that with mitigation measures, the Project will have a less than significant impact on groundwater supplies and recharge. Draft PA/EIS/EIR 3.19-47. Among the mitigation measures that the Draft PA/EIS/EIR contends will reduce the impacts is Mitigation Measure 3.19-3, a Groundwater Monitoring and Mitigation Plan (GMMP). The GMMP would establish thresholds and required corrective actions that would be triggered if the data acquired through the GMMP indicated a deleterious effect from the Project pumping on the aquifer at Soda Spring. Draft PA/EIS/EIR at 3.19-43, 3.19-30. The GMMP is supposed to “provide detailed methodology for monitoring and reporting procedures; locate monitoring, extraction and survey points; define significance criteria; and identify mitigation measures in the event that adverse impacts occur than can be attributed to the Project.” Draft PA/EIS/EIR at 3.19-44.

However, this mitigation measure is inadequate because the County has not yet drafted or approved the GMMP. Mitigation measures in a yet to be developed and approved GMMP are too speculative to satisfy NEPA and CEQA.<sup>5</sup> Moreover, because the GMMP is not part of the Draft PA/EIS/EIR or available for review, neither the public nor decisionmakers can evaluate whether this mitigation measure would minimize the adverse impacts to Soda Spring or evaluate other alternative mitigation measures. Therefore, prior to approving the Project, the Lead Agencies must finalize the GMMP<sup>6</sup> and circulate it for public review and comment to ensure informed decisionmaking.

## **V. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACT THE PROJECT WILL HAVE ON THE MOHAVE TUI CHUB**

The Draft PA/EIS/EIR fails to adequately analyze and discuss the Project’s impacts on the Mohave tui chub (*Siphateles bicolor mohavensis*), a federally- and state-listed endangered species. The Mohave tui chub once flourished in the Mojave River, but invasive fish species introduced into the Mojave River by California water projects eliminated it from the river. Today, there are only four known populations: China Lake NWS, Soda Spring, the CDFW Camp Cady Wildlife Area, and Deppe Pond. Draft PA/EIS/EIR at 3.4-6. The tui chub requires pools that are at least four feet deep. *Id.* “Insufficient water supply to existing populations is a threat to the viability of Mohave tui chub populations.” Draft PA/EIS/EIR at 3.4-6.

The Draft PA/EIS/EIR only analyzes the Project’s impacts on the tui chub during the construction phase of the Project while neglecting to disclose impacts during the

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<sup>5</sup> The GMMP does not explain the significance threshold for when Project pumping would need to be curtailed or ceased.

<sup>6</sup> The County must exercise its independent review and approval of the GMMP.

remainder of the Project's life. Additionally, the Draft PA/EIS/EIR incorrectly compresses the discussion of mitigation measures with the discussion of the Project's impacts on the tui chub into a single issue. Finally, the Draft PA/EIS/EIR incorrectly concludes that incorporation of Mitigation Measure 3.19-4 will result in no significant impact to the tui chub.

**A. The Draft PA/EIS/EIR Fails to Acknowledge Hydrological Uncertainties in Its Analysis of the Tui Chub**

The Draft PA/EIS/EIR's conclusion that there will be no significant impact on the Mohave tui chub fails to acknowledge the uncertainty of whether Soda Spring is hydrologically connected to the Soda Mountain Valley aquifer and whether the Project's groundwater extraction could impact Soda Spring. As discussed above, there are many uncertainties and inadequacies in the Draft PA/EIS/EIR's hydrological analysis. *See* App. H. The Project's groundwater extraction may cause an unexpected and significant drawdown of water at Soda Spring, which would result in irreparable damage to the tui chub and its habitat. In an attempt to reduce this uncertainty, the Draft PA/EIS/EIR includes APMs 14 through 18 which are intended to "minimize and avoid adverse effects relating to groundwater outflow from the Soda Mountain and potential associated effects to water levels at Soda Spring." Draft PA/EIS/EIR at 3.19-29. However, the Draft PA/EIS admits that these APMs would actually "not address adverse conditions to the surface or groundwater resources until damage has occurred ...." Draft PA/EIS/EIR at 3.19-30. The Draft PA/EIS/EIR specifically states that:

While groundwater investigation (APMs 14 and 15) in conjunction with model calibration (APM 17) would quantify effects on groundwater resources and would assist in reducing uncertainty related to the limitations of groundwater modeling, the action criteria and significance thresholds detailed in APMs 17 and 18 are short term in nature (i.e. cessation of monitoring after 5 years if certain conditions are met) and action criteria may not be adequate to reduce adverse effects to water levels at Soda Spring.

Draft PA/EIS/EIR at 3.19-30. Therefore, it is evident that there is uncertainty as to whether the Project's groundwater extraction could impact Soda Spring (and thereby impact the tui chub) even with the APMs in place. The Draft PA/EIS/EIR fails to discuss the uncertainties in the analysis with regard to potential impacts on the tui chub. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately inform the public and decisionmakers about the impacts to the tui chub.

**B. The Draft PA/EIS/EIR Only Discusses Environmental Impacts on the Tui Chub During the Construction Phase of the Project**

The Draft PA/EIS/EIR discusses impacts on the tui chub in a single paragraph that only examines the impacts during the construction phase of the Project. Draft

PA/EIS/EIR at 3.4-30. As discussed above, the Project will also pump groundwater throughout the operation, maintenance, and decommissioning of the Project. Draft PA/EIS/EIR at 2-10 – 2-13. The groundwater being pumped may be connected to the habitat of the tui chub. *See* Myers, at 6. Consequently, the Draft PA/EIS/EIR should have analyzed the impact to the tui chub throughout the life of the Project.

**C. The Draft PA/EIS/EIR Compresses the Analysis of Impacts of the Project on the Tui Chub with the Project’s Mitigation Measures Into a Single Issue**

The Draft PA/EIS/EIR improperly compresses the analysis of the Project’s impacts on the tui chub and the mitigation measures into a single issue, thereby disregarding the requirements of CEQA. An EIR must separately identify and analyze each impact, determine its significance, and then propose mitigation measures to mitigate each specific impact. *Lotus v. Dep’t of Transp.*, 223 Cal. App. 4th 645, 656-658 (2014) (holding that an EIR violates CEQA if it incorporates mitigation measures for a project into the impact analysis, and then determines that the impacts are less than significant).

Here, the Draft PA/EIS/EIR concludes that the Project will have no impact on the tui chub based solely on an analysis of impacts that takes mitigation measures into account. *See* Draft PA/EIS/EIR at 3.4-30 (“No impacts are anticipated to Mohave tui chub, as groundwater monitoring that is proposed in Mitigation Measure 3.19-4 and APMs 14 through 18 would verify that the Project would not detrimentally affect flows at Soda Spring.”).

The Draft PA/EIS/EIR must first analyze the Project’s impacts on the tui chub without taking any mitigation measures into account, and then separately analyze the effects with the mitigation measures in place. The Draft PA/EIS/EIR fails to do this, thereby violating CEQA.

**D. The Draft PA/EIS/EIR Incorrectly Concludes that Mitigation Measure 3.19-4 Will Lessen the Project’s Impact to the Tui Chub**

Mitigation Measure 3.19-4 would not mitigate the impact of the Project on the tui chub. The tui chub requires “a flow of fresh water into the pool to counteract high evaporation rates in the desert.” Draft PA/EIS/EIR at 3.4-6. “Insufficient water supply to existing populations is a threat to the viability of Mohave tui chub populations.” *Id.* Therefore monitoring of the salinity and water levels at Soda Spring is critical for maintaining the habitat of the tui chub. Mitigation Measure 3.19-4 is inadequate because it only requires that the Applicant re-evaluate the adequacy of the monitoring plan. Draft PA/EIS/EIR at 3.19-44. This is problematic because simply monitoring Soda Spring may not mitigate adverse environmental impacts before they become significant. Furthermore, even if monitoring detected adverse impacts, the Mitigation Measure does not require that any changes be made to reverse such impacts or avoid them in the future. Therefore, the Lead Agencies must revise the mitigation measures to ensure that appropriate remedial steps are taken should adverse impacts be detected at Soda Spring.

## **VI. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACTS THE PROJECT WILL HAVE ON DESERT BIGHORN SHEEP**

The Draft PA/EIS/EIR concludes that the impact on the desert bighorn sheep (*Ovis canadensis nelsoni*) will be significant and unavoidable. We agree with this finding. However, the Draft PA/EIS/EIR minimizes the significance of the Soda Mountains for desert bighorn sheep connectivity. As a result, the Draft PA/EIS/EIR fails to consider and disclose the full impact the Project will have on desert bighorn sheep. Furthermore, the Draft PA/EIS/EIR fails to consider additional feasible mitigation measures.

The desert bighorn sheep is a California Fully Protected Species and a BLM Sensitive Species. The fully protected species designation was California's first attempt to give protection to wildlife that is rare or at risk of extinction. Fully Protected Animals, California Department of Fish and Wildlife, [http://www.dfg.ca.gov/wildlife/nongame/t\\_e\\_spp/fully\\_pro.html](http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html) (last visited Feb. 24, 2014). California "declare[d] that bighorn sheep are an important wildlife resource of the state to be managed and maintained at sound biological levels. Therefore, it is hereby declared to be the policy of the state to encourage the preservation, restoration, utilization, and management of California's bighorn sheep population." Cal. Fish & Game Code § 4900.

Desert bighorn sheep herds occupy steep mountainous regions and only rarely cross intermountain topography to colonize new habitat or to move between herds. This occasional movement is important to improve genetic diversity in order to prevent inbreeding that would eventually lead to extinction. California Department of Fish and Wildlife, A Conservation Plan for Desert Bighorn Sheep in California at 1 (2013) (hereafter referred to as Draft Conservation Plan). Desert bighorn sheep inhabiting the southeastern desert region of California were once a single large metapopulation.<sup>7</sup> *Id.* However, human activity, specifically the construction of highways, has essentially terminated migration and gene flow, splitting that single metapopulation into multiple metapopulation fragments. *Id.* There are currently multiple metapopulation fragments whose boundaries are formed by major highways (e.g. Interstate 15). John D. Wehausen, Nelson Bighorn Sheep, [www.blm.gov/ca/pdfs/cdd\\_pdgs/Bighorn1.PDF](http://www.blm.gov/ca/pdfs/cdd_pdgs/Bighorn1.PDF). Interstate 15 forms the boundary between the North Metapopulation Fragment and the North-Central Metapopulation Fragment. Draft Conservation Plan at 41, 47.

The California Department of Fish and Wildlife is currently finalizing the Draft Conservation Plan to address the need for connectivity between metapopulation fragments in order to maintain genetic diversity. A main focus of the Draft Conservation Plan is the creation of gene flow across man-made barriers that currently divide the desert bighorn sheep and completely prevent movement between metapopulation fragments. Draft Conservation Plan at 64. Interstate 15, the freeway that runs through the Project

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<sup>7</sup> A metapopulation is a network of geographically distinct populations that are connected through migration events in which sheep move between populations. Draft Conservation Plan at 18.

site as well as the Soda Mountains, is one such barrier, and there is currently almost no gene flow across it. *Id.* at 46. As explained more fully below, if the Project is built on the proposed site, it will not only exacerbate the issue of connectivity by making sheep more wary of crossing this barrier, but also permanently eliminate the possibility of connecting the metapopulation in this location. The Draft PA/EIS/EIR also fails to discuss adequate measures to mitigate this impact.

**A. The Draft PA/EIS/EIR Provides Inadequate Information Regarding the Importance of the Project Site for Desert Bighorn Sheep Connectivity**

The Draft PA/EIS/EIR does not adequately discuss the importance of the Project site for connectivity of desert bighorn sheep metapopulation fragments. NEPA “ensures that the agency ... will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience.” *Methow Valley*, 490 U.S. at 349. Additionally, “NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct.’” *Blue Mountains Biodiversity Project*, 161 F.3d at 1216 (citing *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989)).

The Draft PA/EIS/EIR should have included an in-depth discussion of the Draft Conservation Plan, which has been available since April 2013.<sup>8</sup> The Draft Conservation Plan specifically discusses the importance of the Project site for future desert bighorn sheep connectivity. Draft Conservation Plan at 46.

Although the Draft PA/EIS/EIR considers the Draft Conservation Plan, it minimizes the significance of the Soda Mountains as a location for connectivity, stating:

The Desert Bighorn Sheep Management Plan, currently being drafted by CDFW, identifies the Soda Mountain area as a location where connectivity across I-15 *could be reestablished* due to the presence of oversized culverts

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<sup>8</sup> The BLM Special Status Species Management Manual “establishes policy for management of species listed or proposed for listing ... which are found on BLM-administered lands.” Bureau of Land Management, 6840 - Special Status Species Management at 1 (2008) (hereafter referred to as BLM Special Status Species Management Manual). The BLM Special Status Management Manual discusses the BLM’s duties toward sensitive species, including that “the BLM shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat.” *Id.* at 37. The BLM should have addressed the Draft Conservation Plan because the BLM Special Status Species Management Manual requires that, “[t]he BLM will incorporate objectives and actions identified in recovery plans into BLM documents.” *Id.*



(essentially underpasses) and bighorn sheep in the area (Panorama Environmental, Inc., 2012). The critical linkage map in the DRECP reflects this goal of reestablishing connectivity across I-15 in areas where it could potentially exist in the future.

Draft PA/EIS/EIR at 3.4-18 (emphasis added). The Draft Conservation Plan, however, does not simply say connectivity *could* be reestablished in the Soda Mountains. Rather, the Draft Conservation Plan identifies the Soda Mountains as the “*primary location* at which to re-establish desert bighorn sheep movement and gene flow across the I-15.” Draft Conservation Plan at 46 (emphasis added). Indeed, the Soda Mountains are a “fundamentally important conduit for gene flow between two large metapopulation fragments that currently do not exchange genes or colonists,” namely, the North Metapopulation Fragment of desert bighorn sheep and the North-Central Metapopulation Fragment. Draft Conservation Plan at 46.<sup>9</sup>

Connecting the desert bighorn sheep metapopulation fragments in the Soda Mountains is a primary goal identified in the Draft Conservation Plan. The Draft Conservation Plan identifies two main strategies to achieve conservation goals of the desert bighorn sheep at the metapopulation level. The first is to “[p]revent further metapopulation fragmentation ... [and] not allow developments in intermountain movement habitat ... that will curtail essential movement of sheep between populations.” Draft Conservation Plan at 39. The second strategy is to “[e]xplore ways to provide bighorn sheep the ability to cross current metapopulation barriers and work with appropriate agencies to reconnect metapopulation fragments.” Draft Conservation Plan at 39. The Draft Conservation Plan identifies implementation actions that are “considered necessary to enhance the probability of persistence of desert bighorn sheep in California as viable populations in a functional metapopulation.” *Id.* at 61. A first

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<sup>9</sup> The connectivity possible in this region is not limited to connecting sheep between the North and the South Soda Mountains. Human activity fractured the once unitary California desert bighorn sheep metapopulation into multiple isolated metapopulation fragments. Draft Conservation Plan 1; *see California Department of Fish and Wildlife, Desert Bighorn Populations*, <https://www.dfg.ca.gov/wildlife/Bighorn/Desert/images/DesertSheepMap.jpg> (last visited Feb. 28, 2014). The North Metapopulation Fragment includes herds that live north of the Interstate 15. The North-Central Metapopulation Fragment includes herds that live south of the Interstate 15 and north of Interstate 40. *See* Draft Conservation Plan at 41–49 (describing desert bighorn sheep herds and metapopulation fragments, including maps). The Draft PA/EIS/EIR acknowledges that the Biological Resources Technical Report prepared for the Project did not identify desert bighorn sheep linkage corridors within the Project ROW because the model incorrectly underestimated suitable habitat in the south Soda Mountains. “[T]he bighorn sheep habitat suitability report ... did not identify bighorn sheep linkage corridors within the Project ROW; however, it acknowledged that the model incorrectly underestimated suitable habitat in the south Soda Mountains.” Draft PA/EIS/EIR at 3.4-41.

priority implementation action is to “remove potential impediments” to existing potential freeway crossing points, and “[e]xperiment with the use of water ... to establish the use of freeway bridges as bighorn sheep underpasses [at] ... the Soda Mountains (I-15).” *Id.* If this fails, the implementation action calls for building a bridge for desert bighorn sheep between the Soda Mountains. *Id.*

The Draft PA/EIS/EIR also fails to discuss the significance of the Soda Mountain desert bighorn sheep herd’s connection with the Cady Mountain desert bighorn sheep herd. Again, this is a movement corridor that the Draft Conservation Plan identifies as important to maintain and enhance. Draft Conservation Plan at 47. The Project site is located between the Cady Mountains and the Soda Mountains. Because desert bighorn sheep avoid areas that humans have developed, the Project could prevent future movement between these two populations of desert bighorn sheep, an impact that the Draft PA/EIS/EIR ignores.

The Draft PA/EIS/EIR does not provide adequate information on the importance of the Project site to future desert bighorn sheep connectivity to allow for informed decisionmaking. The Draft PA/EIS/EIR provides only a single sentence about the Draft Conservation Plan. Draft PA/EIS/EIR at 3.4-18. The Lead Agencies should revise the Draft PA/EIS/EIR to incorporate the Draft Conservation Plan and to specifically address the impact that the Project will have on the connection of the desert bighorn sheep metapopulation fragments. Ensuring this connectivity is a first priority in enhancing the viability of the desert bighorn sheep metapopulations in California.

**B. The Draft PA/EIS/EIR Mitigation Proposal Does Not Mitigate the Significant Impact on Desert Bighorn Sheep and Therefore Other Mitigation Measures Must Be Considered**

The Draft PA/EIS/EIR correctly concludes that the Project would have a “substantial adverse effect” and a “cumulatively considerable contribution to significant adverse cumulative impacts” on desert bighorn sheep. Draft PA/EIS/EIR at 3.4-68. However, the Draft PA/EIS/EIR errs in asserting that these impacts are significant and unavoidable, even with the proposed mitigation measure.<sup>10</sup> *Id.* There are feasible mitigation measures<sup>11</sup> which the Draft PA/EIS/EIR fails to consider that would lessen the Project’s environmental impacts to the desert bighorn sheep.

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<sup>10</sup> The only mitigation measure that the Draft PA/EIS/EIR discusses for desert bighorn sheep is Mitigation Measure 3.4-3. Mitigation Measure 3.4-3 provides additional detail and requirements for APM 75. Draft PA/EIS/EIR at 3.4-64. As a design feature of the Project, APM 75 provides two water sources to “improve bighorn sheep habitat connectivity.” *Id.*

<sup>11</sup> “[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.” Cal. Pub. Res. Code § 21002. A mitigation measure is feasible if it is “capable of being accomplished in a successful

The Supreme Court has stated that “omission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA.” *Methow Valley*, 490 U.S. at 352. CEQA requires mitigation because “[a] gloomy forecast of environmental degradation is of little or no value without pragmatic, concrete means to minimize the impacts and restore ecological equilibrium.” *Envtl. Council of Sacramento v. City of Sacramento*, 142 Cal. App. 4th 1018, 1039 (2006). Therefore, “[m]itigation is the teeth of the EIR” under CEQA. *Id.*

The first mitigation measure that the Draft PA/EIS/EIR should have discussed is manually moving sheep between metapopulation fragments or funding such movement. Desert bighorn sheep have been caught and translocated within California since 1979 and this work continues today. Draft Conservation Plan at 30. There are large known populations of desert bighorn sheep that are capable of serving as sources of translocation stock. *Id.* Manually moving desert bighorn sheep could mitigate for the added barrier that the Project would cause to desert bighorn sheep movement and help maintain genetic diversity.

The second mitigation measure that the Draft PA/EIS/EIR should have discussed is building an overpass across the Interstate 15 or helping to fund the construction of such an overpass. Although *underpasses* already exist in the area, desert bighorn sheep are reticent to use them. Jeffrey W. Gagnon, *et al.*, Evaluation of Desert Bighorn Sheep Overpasses (2013). This reticence will likely only increase with more human activity in the area. However, overpasses have proven very successful at improving desert bighorn sheep movement across highway barriers. *Id.* For example, in Arizona along Highway 95, three overpasses were completed in January 2011 and animals began using the overpasses almost immediately. *Id.* Preliminary evaluations of the Arizona overpasses suggest that they are extremely successful. *Id.* The Draft Conservation Plan suggests building such an overpass near the Zzyzx Road off-ramp next to the Project site. Draft Conservation Plan at 46. The revised Draft PA/EIS/EIR should consider building or helping fund an overpass as a feasible mitigation measure to diminish the significant impacts to desert bighorn sheep.

### **C. The Draft PA/EIS/EIR Inadequately Discuss the Project’s Indirect Effects on the Desert Bighorn Sheep**

The Draft PA/EIS/EIR fails to discuss the indirect effects that the pumping of groundwater could foreseeably have on the desert bighorn sheep metapopulation. Healthy desert bighorn sheep populations depends on reliable surface water, and the pumping of groundwater could eliminate the South Soda Mountain desert bighorn sheep herd’s water source. Draft Conservation Plan at 35-36, 38, 40. “Indirect effects ... are caused by the action and are later in time or farther removed in distance, but are still

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manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” Cal. Pub. Res. Code § 21061.1.

reasonably foreseeable.” 40 C.F.R. § 1508.8(b). Reasonably foreseeable indirect effects are effects which are sufficiently likely to occur such that a person of ordinary prudence would take them into account in reaching a decision. *See Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003). An EIS must discuss an effect if: (1) the project will make it likely to occur; (2) it can be described at the time of the EIS with sufficient specificity to make its consideration useful; and (3) it cannot be meaningfully considered at a later time. *Sierra Club v. Marsh*, 769 F.2d 868, 878 (1st Cir. 1985). Similarly, CEQA defines indirect effects as changes to the physical environment that occur later in time or farther removed in distance than direct effects. Cal. Code Regs. tit. 14 § 15358(a)(2). Long-term effects must also be included in this analysis. Cal. Code Regs. tit. 14 § 15126.2(a).

As the Draft Conservation Plan explains, given the poor habitat and low rainfall in the area, it is unusual to find such a large herd of desert bighorn sheep residing in the South Soda Mountains. A key factor in the success of the herd appears to be Soda Spring.<sup>12</sup> As explained in Section III above, the Project may result in a drawdown of Soda Spring. *See also* Myers, at 6. Such a result could affect the viability of the Soda Mountain herd by diminishing or destroying its reliable water source.<sup>13</sup> The Draft PA/EIS/EIR fails to address this reasonably foreseeable indirect effect.

## **VII. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACT THE PROJECT WILL HAVE ON THE DESERT TORTOISE**

The desert tortoise (*Gopherus agassizii*) is federally- and state-listed as threatened. Draft PA/EIS/EIR at 3.4-7. Despite being listed as threatened, the desert tortoise population continues to decline. U.S. Fish and Wildlife Service, Status of the Desert Tortoise and Critical Habitat (2014). The BLM must “seek to conserve endangered and threatened species and shall utilize its authorities in furtherance of the purposes of the ESA.” BLM Special Status Species Management Manual at 8, 12. In addition, the BLM is required “to use its authorities to further the purposes of the ESA by implementing programs for the conservation of threatened and endangered species and the ecosystems upon which they depend.” *Id.* The BLM’s objectives are to “conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species.” *Id.* at 3.

The Draft PA/EIS/EIR fails to adhere to the BLM’s mandate. The Draft PA/EIS/EIR arbitrarily dismisses conclusions that the Project site is good desert tortoise habitat. Instead, the Draft PA/EIS/EIR concludes that the Project site is poor habitat due to low population density of desert tortoises on the site, conflating two separate topics. The Draft PA/EIS/EIR fails to clearly present its surveys and methodology in a way that

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<sup>12</sup> Reliable water systems enhance the stability of desert bighorn sheep populations, and the loss of such water sources can have a significant effect on the size of a population. Draft Conservation Plan at 35-36, 38, 40.

<sup>13</sup> A factor the Draft Conservation Plan identifies as causing the disappearance of water sources for desert bighorn sheep is the “draw down of aquifers from ground water pumping.” Draft Conservation Plan at 38.

adequately informs the public or helps decision-makers. Finally, the Draft PA/EIS/EIR relies on the mitigation measure of translocation, even though it admits there are uncertainties surrounding translocation of desert tortoises, which has led to high mortality rates of translocated desert tortoises in past projects. The Draft PA/EIS/EIR should present its information in a clear manner to ensure informed decisionmaking and implementation of mitigation measures that will decrease adverse impacts to a protected species.

**A. The Draft PA/EIS/EIR Incorrectly Dismisses the Project Site as Good Habitat for Desert Tortoise**

The Draft PA/EIS/EIR incorrectly dismisses the Project site as low quality habitat for desert tortoises. The Draft PA/EIS/EIR acknowledges that the 2009 USGS Habitat Modeling rated the Project site at 0.6-0.8 on a scale of 0 to 1, identifying the Project site as high quality desert tortoise habitat. App. E-1 at E.1-204 (citing Nussear et al. 2009). However, based on its own survey results finding very little desert tortoise activity at the Project site, the Draft PA/EIS/EIR dismisses the USGS Habitat Modeling as “likely over-predicted.” *Id.* at E.1-62. Rather, the Draft PA/EIS/EIR concludes that the Project will result in the permanent loss of 2,450 acres of “low- to moderate-quality” desert tortoise habitat. Draft PA/EIS/EIR at 3.4-31. The Draft PA/EIS/EIR incorrectly conflates habitat suitability with observed desert tortoise activity.

The USGS Habitat Modeling was not predicting the likelihood of finding desert tortoises on the site, but rather how good the site itself is as desert tortoise habitat. Kenneth E. Nussear et al., *Modeling Habitat of the Desert Tortoise (Gopherus agassizi) in the Mojave*, U.S. Geological Survey (2009). The Desert Renewable Energy Conservation Plan substantiates the conclusion that the Project site is a good desert tortoise habitat. Draft DRECP Biological Goals and Objectives, Desert Renewable Energy Conservation Plan at 10 (2013). That plan has identified the Project site as high potential desert tortoise habitat where desert tortoises should be protected from injury and mortality. *Id.* These conclusions are not undermined by the BLM’s finding that desert tortoises are believed to appear intermittently and in low densities on the Project site.<sup>14</sup> *Id.* at 3.4-9.

To better understand the quality of the Project site as desert tortoise habitat, heightened survey techniques are necessary. For example, as the Desert Tortoise Council suggested in its Scoping Letter, wood rat middens should be examined for more evidence of desert tortoise. Bureau of Land Management, Soda Mountain Scoping Letters 98 (2012) <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/Barstow/>

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<sup>14</sup> It is difficult to find desert tortoises anywhere because of the massive decline in desert tortoise population over the last decades. The newest information confirms that desert tortoise populations in four desert tortoise recovery units are still declining. U.S. Fish and Wildlife Service, Status of the Desert Tortoise and Critical Habitat at 2 (2014). Specifically, in the Western Mojave, where the Project site is located, the population decline is at -9.8 percent per year. *Id.*

soda\_mountain.Par.30966.File.dat/Soda%20Mountain%20Scoping%20Letters\_508.pdf. Additionally, fully understanding and acknowledging the importance of this habitat for the desert tortoise is important because disturbance of desert land is considered permanent, even after restoration work. After the completion of the Project, the Project site will never be returned to its original state of good quality desert tortoise habitat.

**B. The Presentation of the Survey Methodology for the Desert Tortoise Fails to Foster Informed Decisionmaking or Informed Public Participation**

The Draft PA/EIS/EIR violates NEPA and CEQA by failing to carefully describe the desert tortoise survey methodology the agencies used in a detailed, clear, and easily understandable manner. NEPA requires Lead Agencies to ensure the scientific integrity and accuracy of the information used in their decisionmaking. 40 C.F.R. § 1502.24. Additionally, CEQ regulations require that EIS's

be written in plain language ... so that decisionmakers and the public can readily understand them. Agencies should employ writers of clear prose or editors to write, review, or edit statements, which will be based upon the analysis and supporting data from the natural and social sciences and the environmental design arts.

40 C.F.R. § 1502.8. "Clarity is at a premium in NEPA because the statute ... is a democratic decision-making tool, designed to 'foster excellent action' by 'help[ing] public officials make decisions that are based on [an] understanding of environmental consequences.'" *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1121 n.24 (9th Cir. 2010); (citing 40 C.F.R. § 1500.1(c)). As a result, "the administrative record must disclose the studies and data used in compiling environmental impact statements. Moreover, any methodologies relied upon should be carefully described." *Izaak Walton League of Am. v. Marsh*, 655 F.2d 346, 368 (D.C. Cir. 1981); *see also Citizens of Goleta Valley*, 52 Cal. 3d at 568.

For example, it is unclear exactly how many surveys the Draft PA/EIS/EIR relies upon. The Draft PA/EIS/EIR seems to rely upon three main surveys: (1) a 2009 survey; (2) a 2012 survey; and (3) an April 2013 survey conducted by Kiva Biological Consulting. However, section 3.4.2.2 Wildlife Survey Methods only discusses the 2009 and 2012 surveys. Draft PA/EIS/EIR at 3.4-3. There is no discussion of the 2013 survey in this section, despite the Draft PA/EIS/EIR's reliance upon the 2013 survey later in its discussion of the desert tortoise.

Additionally, the Draft PA/EIS/EIR fails to adequately detail the methodology used in each of the three main surveys. Although the Draft PA/EIS/EIR asserts that the USFWS protocols for surveying desert tortoises were used, the Draft PA/EIS/EIR lacks detail and contradicts itself where details are provided. For example, under USFWS protocols the 2009 survey would not be considered because results of pre-project surveys



cannot be considered if they are more than one year old. U.S. Fish and Wildlife Service, Desert Tortoise (Mojave Population) Field Manual, Ch. 4-9 (2009). Similarly, the Draft PA/EIS/EIR discusses the area that each survey covered and what was found, but fails to detail what each survey looked for. Draft PA/EIS/EIR at 3.4-3; App. E-1 at E.1-20–E.1-22. The Lead Agencies fail to explain what type of burrow was examined, the procedure followed when examining a burrow, or if rat nests were investigated for signs of desert tortoises. *Id.* The Draft PA/EIS/EIR fails to clearly inform decisionmakers and the public of the methodologies used to understand the density of desert tortoises on the Project site. Therefore, the Draft PA/EIS/EIR must be revised so that it can function as a proper decisionmaking tool.

### **C. The Desert Tortoise Translocation Plan is Not an Adequate Mitigation Measure**

Mitigation Measure 3.4-2b will not adequately mitigate the significant effects the Project will have on the desert tortoise. The Draft PA/EIS/EIR proposes to mitigate the Project's impact on the desert tortoise by translocating all desert tortoises from the Project site to suitable habitat. Draft PA/EIS/EIR at 3.4-58. However, the Draft PA/EIS/EIR does not provide adequate detail for this mitigation measure to allow for an assessment of the adequacy of this measure. Furthermore, translocation is not an adequate mitigation measure for desert tortoises because of the high risk of mortality associated with translocation.

A “perfunctory description” of a mitigation measure is not adequate to satisfy NEPA’s requirements.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir.1998). The mitigation section is “the teeth of the EIR.” *Env'tl. Council of Sacramento*, 142 Cal. App. 4th at 1039. To be adequate, mitigation measures should be actions that actually improve the adverse environmental effects caused by the proposed action. Mitigation measures may not be plans that have not yet been formulated and have not been subject to analysis and review within the EIR. *See Pres. Wild Santee*, 210 Cal. App. 4th at 281. Furthermore, if a mitigation measure identified in an EIR would itself cause significant environmental impacts distinct from the significant effects caused by the project, an EIR must discuss those impacts. Cal. Code Regs. tit. 14 § 15126.4(a)(1)(D).

The Draft PA/EIS/EIR does not provide enough detailed information about the provisions of Mitigation Measure 3.4-2b to allow adequate evaluation regarding its efficacy and potential to cause significant impacts to the desert tortoise. Mitigation Measure 3.4-2b consists of the development and implementation of a USFWS-approved Desert Tortoise Translocation Plan (DTTP). Draft PA/EIS/EIR at 3.4-58. However, other than a statement of goals of the DTTP,<sup>15</sup> the Draft PA/EIS/EIR does not provide

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<sup>15</sup> The goals of the DTTP are to relocate all desert tortoises from the Project site, minimize impacts on resident desert tortoises outside the Project site, minimize stress, disturbance, and injuries to relocated/translocated tortoises, and assess the success of the translocation effort through monitoring. Draft PA/EIS/EIR at 3.4-58.

any further information regarding the provisions of the DTTP or how the DTTP will meet its stated goals. Draft PA/EIS/EIR at 3.4-58. Although the final DTTP is to be based on the draft DTTP that has already been prepared by the Applicant, the Draft PA/EIS/EIR does not discuss the draft DTTP in any sufficient detail.<sup>16</sup>

It is imperative that the draft and final DTTP be available for review to allow the public and decisionmakers to evaluate the effectiveness of the proposed mitigation. As currently drafted, the draft DTTP contains several inconsistencies. For example, the Draft PA/EIS/EIR states that a goal of the DTTP shall be to “assess the success of the translocation effort through monitoring.” Draft PA/EIS/EIR at 3.4-58. However, the DTTP concludes that “[n]o post - translocation monitoring of recipient and control sites is proposed due to the low number of desert tortoise in the project area and proposed recipient areas.” *Id.*; Panorama Environmental Inc., Desert Tortoise Translocation Plan at 25 (2013). This type of contradiction needs to be clarified in order for the public and decisionmakers to correctly assess the mitigation measures.

Additionally, the draft DTTP does not propose what would happen if more than five desert tortoises were found on the Project site. As discussed above, it is difficult to determine how many desert tortoises are located in a specific area and therefore it is reasonably foreseeable that the draft DTTP has inaccurately determined the number that will require translocation. For example, the Ivanpah solar facility, also located in the Mojave Desert, estimated that only 38 desert tortoises would be found on the Project site, but actually found 144. Ken Wells, *Where Tortoises and Solar Power Don't Mix*, Bloomberg BusinessWeek (Oct. 10, 2012). Therefore, the draft and/or final DTTP must be attached to the revised Draft PA/EIS/EIR and described in sufficient detail so that the public and Lead Agencies can understand the provision of the DTTP and how it will be implemented and can assess its effectiveness in mitigating the impact to the desert tortoise.

Finally, translocation is not an adequate mitigation measure because of the high risk of mortality associated with translocation. The Desert Renewable Energy Conservation Plan's Independent Science Advisor Report specifically recommends against translocation as an effective mitigation measure due to high mortality rates of translocated desert tortoises.<sup>17</sup> The DRECP Independent Science Advisors, Recommendations of Independent Science Advisors for the California Renewable Energy Conservation Plan at 83 (2010). This report explains:

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<sup>16</sup> The DTTP has been available since June 2013, but it is not a part of, or attached to, the Draft PA/EIS/EIR. We received a copy of the DTTP after multiple phone calls to the BLM.

<sup>17</sup> For example, during the Fort Irwin translocation plan in 2008, located just north-west of the Project site, the project had to be suspended because translocation left desert tortoises more vulnerable to predation from coyote predation. Louis Sahagun, *Army Grants a Stay to Desert Tortoise*, Los Angeles Times (Oct. 11, 2008). The DTTP does not discuss the potential for this extra threat to translocated desert tortoises.

In general, moving [desert tortoises] from one area to another ... is *not* a successful conservation action and may do more harm than good to conserved populations by spreading diseases, stressing resident animals, increasing mortality, and decreasing reproduction and genetic diversity. Transplantation or translocations should be considered a last recourse for unavoidable impacts, should never be considered full mitigation for the impact, and in all cases must be treated as experiments subject to long-term monitoring and management.

*Id.* at vii. The Draft PA/EIS/EIR also recognizes the risks associated with translocation, “[t]he capture, handling, and relocation of desert tortoises from the Project site . . . could result in harassment and possibly death or injury.”<sup>18</sup> Draft PA/EIS/EIR at 3.4-32.

Therefore, translocation likely will not lessen the Project’s impact to the desert tortoise and may in fact have significant adverse effects on desert tortoise. Despite this the well-known risk associated with translocation, the Draft PA/EIS/EIR includes the DTTP as a mitigation measure, even though the specifics of how the DTTP would minimize adverse impacts to translocated tortoises is unknown. Thus, the Draft PA/EIS/EIR must consider further mitigation measures. At a minimum, as part of a revised Draft PA/EIS/EIR, the final DTTP must be available to the public and decisionmakers to enable them to evaluate the DTTP and its potential effects on the desert tortoise.

## **VIII. THE DRAFT PA/EIS/EIR FAILS TO ADEQUATELY EXAMINE THE PROJECT’S VISUAL IMPACTS**

The Draft PA/EIS/EIR fails to adequately analyze and describe the Project’s significant adverse visual impacts on nearby viewsheds and visual resources, including impacts to visitors of the Mojave National Preserve. As explained below, the Draft PA/EIS/EIR’s analysis of the Project’s visual impacts is replete with errors, omissions, and contradictory findings that require the Lead Agencies to revise and reissue the Draft PA/EIS/EIR for public comment (should the Lead Agencies still wish to consider this site for a utility-scale solar PV facility). Among the Draft PA/EIS/EIR’s most significant errors are the following: (1) failing to clearly state whether the Project meets the BLM’s Visual Resource Management (VRM) Class objectives; (2) failing to adequately analyze the VRM classification; (3) relying on inadequate assumptions in concluding that the Project’s visual impacts would be less than significant; (4) failing to substantiate conclusions regarding the Project’s visual impacts on the night sky and the visual impacts of glint and glare from the Project’s solar panels; (5) failing to consider the Project’s

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<sup>18</sup> The Draft PA/EIS/EIR also states “the risks and uncertainties of translocation to the desert tortoise are well recognized in the desert tortoise scientific community.” Draft PA/EIS/EIR at 3.4-33.

long-term, direct and indirect aesthetic impacts; and (6) failing to consider the indirect economic effects related to the Project's visual impacts.

**A. The Draft PA/EIS/EIR Fails to Clearly State Whether the Project Meets the BLM's Visual Resource Management Objectives**

"NEPA requires federal agencies to examine the environmental effects of a proposed project and, for those actions that will significantly affect the environment, to inform the public in an EIS of the relevant factors that were considered in the decision-making process." *Baltimore Gas*, 462 U.S. at 97. CEQA requires an adequate description of the Project's setting that "identif[ies] and focus[es] on the significant environmental effects of the proposed project ... [and] includes relevant specifics to the area ... such as ... scenic quality." *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.*, 60 Cal. App. 4th 1109, 1122-23 (1997).

The BLM uses VRM classes to establish management objectives for the land it administers. Draft PA/EIS/EIR at 3.18-5. "Management objectives for each VRM class set the level of visual change to the landscape that may be permitted for any surface-disturbing activity and, if that level is exceeded, whether any proposed mitigation measures can bring the project into line with the BLM's VRM classification objectives." *Id.* There are four VRM Classes – Classes I, II, III, and IV. *Id.* Each class has its own objectives, ranging from Class I's primary objective to "preserve the existing character of the landscape" to Class IV's primary objective to "provide for management activities which require major modifications of the existing character of the landscape." *Id.* A project that fails to conform to its VRM class objectives "would need to be mitigated to the greatest extent possible, and to the VRM class objective at a minimum." *Id.* at 3.18-13. Where a "project cannot be mitigated to meet the VRM class objectives, then the application may be denied or the proposal redesigned or relocated to meet the objective." *Id.*

Here, the BLM designated the Project site as VRM Class III. *Id.* at 3.18-14. "The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but *should not dominate the view of the casual observer.*" *Id.* (emphasis added).

The Draft PA/EIS/EIR fails to clearly explain whether the Project's visual impacts would conform to the Project site's VRM Class III objectives. Initially, the Draft PA/EIS/EIR states that all of the action alternatives, Alternatives A, B, C, D, and F, fail to meet VRM Class III objectives because their visual impacts "would dominate the visual character of the landscape." *Id.* at 3.18-22, 3.18-29, 3.18-30, 3.18-31. In contrast, a later section of the Draft PA/EIS/EIR states that the Project's impact "on scenic vistas would be adverse, but it would not dominate the landscape character from the main vantage points in the study area." *Id.* at 3.18-40. The phrase "not dominate the landscape character" parrots the language of the VRM Class III objectives, but the meaning of the phrase "main vantage points," which informs the determination that the Project's impact

“on scenic vistas...would not dominate the landscape character...,” is unclear. *Id.* The Draft PA/EIS/EIR fails to adequately explain this contradiction and never plainly states whether the Project’s visual impacts would comply with VRM Class III objectives. Thus, in its current form, the Draft PA/EIS/EIR provides insufficient information to enable the public and decisionmakers to make a well-informed decision about the Project, including whether to exercise discretion to deny, relocate or redesign the Project.

**B. The Draft PA/EIS/EIR Fails to Adequately Analyze the Visual Resource Management Classification of the Project Site**

The Draft PA/EIS/EIR fails to support its designation of the Project site as VRM Class III, because the BLM ignores certain factors in determining the class designation. VRM classes are determined by considering the Visual Resource Inventory (VRI) class designations as well as the applicable resource allocations, demands, and management decisions. Draft PA/EIS/EIR at 3.18-5. The VRI is BLM’s official record of the existing status and condition of visual resources on BLM-administered lands. Draft PA/EIS/EIR at 3.18-5. VRI classes provide the basis for considering visual values in the resource management planning process. *Id.* The VRI is comprised of three factors: (1) visual sensitivity, (2) scenic quality, and (3) and distance zones. Draft PA/EIS/EIR at 3.18-4. These factors are evaluated, scored, and combined to determine the VRI Class. Draft PA/EIS/EIR at 3.18-4. The Draft PA/EIS/EIR has inadequately analyzed all three VRI factors, thus raising doubts about whether the Project should be classified as VRM Class III. These doubts are heightened by the BLM’s questionable management decision to classify the Project as VRM Class III given that it lies immediately next to the Preserve, a scenic area of critical environmental concern.

**1. The Draft PA/EIS/EIR Fails to Adequately Analyze the Visual Resource Inventory for the Project Site**

The Draft PA/EIS/EIR fails to adequately analyze all three factors of the Project site’s VRI: (1) visual sensitivity, (2) scenic quality, and (3) and distance zones. Because the VRI contributed to the determination of the Project’s VRM class, the VRM classification is also flawed.

**a) The Draft PA/EIS/EIR fails to adequately analyze the visual sensitivity level of the Project site**

The BLM assigned a visual sensitivity level (VSL) of medium to the Project area based on low levels of recreation use (primarily off-highway vehicles), but ignored other important factors that are supposed to be considered in assigning a sensitivity level for a particular area. Draft PA/EIS/EIR at 3.18-7. “Sensitivity levels are a measure of public concern for scenic quality.” *Id.* “Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern: type of users, amount of use, public interest, adjacent land uses, special areas (*i.e.*, Wilderness Areas, Wild and Scenic Rivers, Scenic Roads or Trails, Areas of Critical Environmental Concern).” *Id.*

In assigning a sensitivity level of medium to the Project area, the BLM focused solely on the level of recreation use and ignored the other listed indicators of public concern. For example, BLM ignored the fact that the Project site is located adjacent to the Mojave National Preserve, which receives hundreds of thousands of visitors a year.<sup>19</sup> BLM also did not adequately consider the Project area's proximity to designated Wilderness Areas. *See* Appendix K.

While both the "type of use" and "public interest" factors for the Project site are rated as high, these factors are ignored in assigning the visual sensitivity level. These other factors should have been considered:

- Factor 1 - type of users – states that "[r]ecreational sightseers may be highly sensitive to any changes in visual quality." BLM Visual Resource Inventory Manual at 4. In other words, this factor recognizes that the visual sensitivity rating should not be entirely contingent upon the number of users an area receives.
- Factor 3 – public interest – takes into account the concerns of local, state, and national groups, as expressed through instruments such as land-use plans. *Id.* Here, both the San Bernardino County and Preserve land use plans express concern for preserving the scenic qualities of the Preserve.<sup>20</sup> *See* Section X.
- Factor 4 – adjacent land uses – states that the "interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area." *Id.* The Draft PA/EIS/EIR fails to explain why BLM failed to account for the scenic importance of the Preserve when it rated the "adjacent land use" of the Project site as low. *Id.*
- Factor 5 – special areas – "frequently require special consideration of the visual values" of Natural Areas, Wilderness Areas, or Wilderness Study Areas." *Id.* The Preserve contains natural areas and Wilderness Areas. National Park Service, Mojave National Preserve,

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<sup>19</sup> For example, the Preserve received 600,897 visitors in 2010. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014).

<sup>20</sup> According the Mojave National Preserve's General Management Plan, "[t]he vision for the Preserve is the protection and perpetuation of a natural environment and cultural landscape, where protection of self-sustaining native desert ecosystems and processes is ensured for future generations. The plan strives to perpetuate the solitude and quiet, and the sense of discovery and adventure that now exists. The plan emphasizes minimum overall development that would detract from the setting and sense of discovery that currently exists." National Park Service, Mohave National Preserve General Management Plan at 1 (2002).



<http://www.nps.gov/moja/planyourvisit/wilderness.htm> (last visited March 2, 2014); *see also* Appendix K.

There are five factors that contribute to the assignment of a VSL rating, and each of the five factors must be considered. Here, BLM does not take all five factors into consideration and instead assigns the Project site a VSL of medium based entirely on the amount of use, failing to account for the fact that the Preserve and Wilderness areas are also directly adjacent to the Project site.

If properly analyzed and considered, the visual sensitivity factors would arguably support a rating of “high” rather than “medium.” BLM must adequately consider all five factors in assigning a VSL for the Project site, and the Draft PA/EIS/EIR must be revised to include this additional analysis.

**b) The Draft PA/EIS/EIR fails to adequately analyze the scenic quality rating of the Project site**

The Draft PA/EIS/EIR assigns a Scenic Quality Rating of medium to the Project site, but it fails to explain the basis for its numeric rating. Draft PA/EIS/EIR at 3.18-6 – 3.18-7. The scenic quality rating criteria consists of Landform, Vegetation, Water, Color, Adjacent Scenery, and Scarcity. *Id.* at 3.18-6,7. The Draft PA/EIS/EIR should give particular emphasis to the Adjacent Scenery criterion, which measures the degree to which scenery outside the scenery unit being measured (*e.g.*, the Project site) enhances the overall impression of the scenery unit. Here, the Preserve’s Soda Mountains about the Project site and, arguably, would significantly enhance the Project site’s visual quality. A revised Draft PA/EIS/EIR must provide and consider this analysis.

**c) The Draft PA/EIS/EIR fails to adequately analyze the distance zones of the Project site**

The Draft PA/EIS/EIR gives scant analysis to the distance zones of the Project site, simply stating that, “[a]ccording to the VRI...all portions of the Project site are within the foreground/middleground zone because I-15 and other public routes of travel are located within a distance of 5 miles.” *Id.* 3.18-8. First, the Draft PA/EIS/EIR does not explain how this “foreground/middleground zone” analysis affects the VRI rating.<sup>21</sup> Second, the Draft PA/EIS/EIR fails to acknowledge and analyze the implications of the Preserve being adjacent to the Project site. BLM must complete a more thorough analysis of the distance zones and clearly explain their significance to the Project’s VRI rating.

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<sup>21</sup> Foreground/middleground is defined as observation points with a view of the Project landscape located three to five miles away. Draft PA/EIS/EIR at 3.18-5.

**2. *BLM's Decision to Classify the Project Site as a Class III VRM Area is Inappropriate***

The BLM's decision to classify the Project area as Class III is not appropriate because the site lies immediately adjacent to the Preserve and Wilderness Areas. *See* App. K. The BLM must consider the visual values of the areas surrounding the Project site. BLM Visual Resource Inventory Manual at 5. "For example, highly scenic areas which need special management attention may be designated as scenic Areas of Critical Environmental Concern and classified as VRM Class I based on the importance of the visual values." *Id.* The Preserve contains numerous unique features, including the world's largest forest of Joshua trees, tall sand dunes, and volcanic cinder cones, that collectively comprise a plethora of biogeological diversity. National Geographic, Top 10 Underappreciated Parks, <http://travel.nationalgeographic.com/travel/top-10/underappreciated-national-parks/#page=2> (last visited March 3, 2014). Consequently, the Lead Agencies should consider the possibility of classifying the Project site as VRM Class I.

**C. *The Draft PA/EIS/EIR Relies Upon Inadequate Analysis and Conclusory Assumptions to Determine that the Project's Visual Impacts Would be Less Than Significant With the Implementation of Mitigation Measures***

NEPA dictates that "an agency may not rely on incorrect assumptions or data in an EIS." *Native Ecosystems Council*, 418 F.3d at 964. "NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Marsh*, 490 U.S. at 371. Similarly, under CEQA an EIR must "effectively disclose to the public the analytic route the . . . agency traveled from evidence to action." *Citizens of Goleta Valley*, 52 Cal. 3d at 568. In general, "the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions." *Id.* As explained below, the Draft PA/EIS/EIR's conclusion that the Project's visual impact to scenic vistas "would be less than significant" with mitigation measures, is based on incorrect and conclusory assumptions and inadequate analysis. *Id.* Consequently, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the significant visual impact to the Preserve's vistas.

**1. *The Draft PA/EIS/EIR Fails to Analyze an Adequate Number of KOPs Situated in the Preserve***

The Draft PA/EIS/EIR analyzes an inadequate number of KOPs located in the Preserve (Preserve KOPs). Given the Project's significant impact on numerous Preserve vistas, the Lead Agencies should have examined impacts on more than three KOPs. The Project site is adjacent to the Soda Mountains, which lie along the western border of the 1.6-million-acre Preserve. Draft PA/EIS/EIR at 3.18-1, 3.18-2. As acknowledged in the Draft PA/EIS/EIR, "large areas within the Preserve would potentially afford views of some portions of the solar array areas and/or substation site." *Id.* at 3.18-25 – 3.18-26.

These Preserve viewsheds normally offer pristine vistas overlooking the Project site, and the Project would significantly impact the aesthetic quality of these vistas. *Id.* at 3.18-39, 3.18-40.

The Draft PA/EIS/EIR analyzes 13 KOPs to determine the Project's visual impacts. *Id.* at 3.18-15. Of these thirteen KOPs, only three – KOPs 13, 14, and 19 – are located in the Preserve, despite the visual prominence the Project would have within numerous Preserve viewsheds along the Soda Mountain ridgeline that overlooks the Project site. These are cherished vistas enjoyed by many Preserve visitors. *See* Yen Le *et al.*, Mojave National Preserve Visitor Study Fall 2013 at 36 (2013) [http://psu.uidaho.edu/files/vsp/reports/151\\_MOJA\\_rept.pdf](http://psu.uidaho.edu/files/vsp/reports/151_MOJA_rept.pdf) (reporting that sixty percent of Preserve visitors rated the scenic vistas as being extremely important). Indeed, when asked to rank the most important feature of the Preserve, visitors chose scenic vistas more often than any other feature. *Id.* Given the Preserve's open access to numerous scenic vistas, and the Draft PA/EIS/EIR's stated purpose of establishing KOPs "to visualize the contrast created by the proposed action from locations most representative of how the public perceives the affected landscape," the Lead Agencies should consider additional Preserve KOPs in order to adequately analyze the Project's significant visual impact on the Preserve's scenic vistas. Draft PA/EIS/EIR at 3.18-15.

## **2. *The Draft PA/EIS/EIR Applies the Wrong Criteria for Analyzing the Project's Visual Impacts on Preserve KOPs***

"[U]pon request of the NPS," and in response to the NPS's "expressed concern about the visual impact that would occur as a result of the Project," the Draft PA/EIS/EIR analyzes impacts on three Preserve KOPs: KOPs 13, 14, and 19. *Id.* at 3.18-3, 3.18-4. In contrast to BLM guidelines for selecting KOPs, which stress "commonly traveled routes or other observation points" among other criteria (*Id.* at 3.18-3), NPS selected the KOPs that would help "identify the Project's [visual] impact to surrounding landscapes and scenic vistas," as well as "the effect the lighting would have on the visual landscape surrounding the project area." *Id.* at 3.18-4. The Draft PA/EIS/EIR indicates the Visual Contrast Rating for KOPs 13 and 14 is strong and acknowledges that the Preserve "would experience the most visual impacts in line and color contrasts." *Id.* at 3.18-20, 3.18-39. However, the Draft PA/EIS/EIR downplays these significant visual impacts based on the BLM's finding that Preserve KOPs "receive very few visitors, on the magnitude of possibly two visitors per year." *Id.* at 3.18-39. This analysis fails to recognize that the Preserve KOPs were selected for their scenic quality, not because they necessarily experience high levels of use or are located along commonly traveled routes. The Lead Agencies should assess the Project's significant visual impacts on Preserve KOPs according to the same criteria used to select these KOPs.

**3. *The Draft PA/EIS/EIR Fails to Substantiate Its Conclusion that KOPs 13 and 14 Experience Recreational Use of Possibly Two Visitors Per Year***

The Draft PA/EIS/EIR fails to provide a substantial basis for concluding that Preserve KOPs 13 and 14 are accessed by recreational users “on the magnitude of possibly two visitors per year.” Draft PA/EIS/EIR at 3.18-16. According to the Draft PA/EIS/EIR, NPS personnel estimated that KOPs 13 and 14 are visited by “possibly two visitors per year,” but no further evidence is offered to substantiate this estimate. *Id.* Solely referencing undocumented claims made by unnamed NPS personnel is insufficient to support the conclusion that KOPs 13 and 14 only experience two visitors per year. Furthermore, the Preserve’s Soda Mountain range, which overlooks the proposed Project site, lacks marked trails or designated viewpoint locations and is fully accessible without a permit. Preserve visitors are free to chart their own hiking, backpacking, and camping routes throughout the Preserve, which allows visitors to enjoy the exceptional views overlooking the Project site from numerous observation points. Given that only a handful of NPS personnel are tasked with overseeing the 1.6-million-acre, open-access Preserve which received 600,897 visitors in 2010, it is difficult to estimate the number of visitors to these Preserve KOPs with a high degree of certainty. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014). In the absence of certainty, the Draft PA/EIS/EIR should provide a realistic range of the possible number of visitors to KOPs 13 and 14 so that the decisionmakers and the public can make better-informed decisions regarding the Project’s visual impacts on the Preserve.

**4. *The Draft PA/EIS/EIR Fails To Substantiate Its Conclusions Regarding the Project’s Visibility from KOP 19***

The Draft PA/EIS/EIR fails to substantiate its conclusion that visibility of the Project area from KOP 19, located within the Preserve, is negligible. *Id.* at 3.18-17. The PA/EIS/EIR justifies this conclusion by stating that the distance between KOP 19 and the Project site (17.6 miles) would render the contrast in form, line, and texture unnoticeable. *Id.* However, the Draft PA/EIS/EIR fails to justify that conclusion with any supporting evidence or data, including an explanation of why glint and glare from the solar panels would not be visible from KOP 19. In addition, the Draft PA/EIS/EIR states that “atmosphere would mute color contrast” without analyzing how atmosphere may vary according to the season or weather pattern, thereby effecting contrast visible from KOP 19. *Id.* at 3.18-20. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR with facts and analysis to support the conclusion regarding the visibility from KOP 19.

**5. *The Draft PA/EIS/EIR Improperly Concludes Under CEQA That the Project's Visual Impact to Preserve KOPs Would be Less Than Significant With Mitigation***

The Draft PA/EIS/EIR fails to support its conclusion that the Project's visual impacts would be less than significant with the incorporation of mitigation measures. Draft PA/EIS/EIR at 3.18-39. Under CEQA, a project would have a significant impact on visual resources if it would: a) Have a substantial adverse effect on a scenic vista; b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; c) Substantially degrade the existing visual character or quality of the site and its surroundings; or d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. *Id.* at 3.18-38.

The Draft PA/EIS/EIR recognizes that the Project would create a "significant impact to scenic vistas," but concludes that mitigation measures would render this impact "less than significant." *Id.* at 3.18-40. However, the Draft PA/EIS/EIR fails to adequately explain how the proposed mitigation measures would render the impact to Preserve vistas less than significant. Instead, the Draft PA/EIS/EIR relies on the fact that the Preserve KOPs "receive very few visitors, on the magnitude of possibly two visitors per year." *Id.* at 3.18-39. This statement is flawed in at least two respects. First, it misleads the public and decisionmakers, because the significance of visual impacts on the Preserve is not a function of the volume of visitors to its KOPs. *See* Section IX(B)(4). Second, even if Preserve KOPs do receive very few visitors, low levels of recreational use do not constitute a mitigation measure under CEQA. Therefore, the Lead Agencies should revise Draft PA/EIS/EIR that adequately analyzes whether the Project's visual impacts to the scenic vistas of KOPs 13 and 14 would be significant under CEQA.

**D. *The Draft PA/EIS/EIR Fails to Substantiate Conclusions with Supporting Facts and Analysis***

The Draft PA/EIS/EIR concludes that the Project lighting would not have a significant impact on the night sky, and that the glint and glare from the Project's solar panels would not have a high contrast with surrounding areas, without providing an adequate basis for these conclusions. NEPA requires agencies to carefully consider detailed information concerning significant environmental impacts. *Methow Valley*, 490 U.S. at 349. An EIR must set forth the bases for its findings on a project's environmental impacts. A bare conclusion without an explanation of its factual and analytical basis is not sufficient. *Laurel Heights Improvement Ass'n v Regents of Univ. of Cal.*, 47 Cal. 3d 376, 404 (1988). Because the Draft PA/EIS/EIR fails to provide an adequate explanation for its conclusions, the Draft PA/EIS/EIR is deficient.

**1. *The Draft PA/EIS/EIR Fails to Substantiate Certain Conclusions Regarding the Project Lighting's Impact on the Night Sky***

First, the Draft PA/EIS/EIR fails to substantiate its conclusion that the Project lighting would be “dark sky-compliant.” Draft PA/EIS/EIR at 3.18-23. The Draft PA/EIS/EIR provides no explanation, definition, or basis for using the phrase ‘dark sky-compliant’ as a term of art to describe the Project, nor does the Draft PA/EIS/EIR define the term itself. Despite the proposal of certain APMs and mitigation measures, the Project would produce unnatural light that would be “visible by surrounding user groups.” *Id.* at 3.18-24. Second, the Draft PA/EIS/EIR claims this “lighting would be minimized and controlled such that it would not be a nuisance and would not detract from the ability for affected viewers to enjoy their surroundings or view the night sky.” *Id.* However, the Draft PA/EIS/EIR fails to adequately explain the basis for these conclusions. This is a significant issue, because Mojave National Preserve is “located in one of the best areas in the United States for night sky viewing” due to its low humidity and air pollution, high number of cloudless nights, and relatively distant proximity from urban centers. US-Parks.com, Mojave National Preserve – Lightscape/Night Sky, <http://www.us-parks.com/mojave-national-preserve/lightscape/-/night-sky.html> (last visited March 2, 2014). Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to provide facts or analysis to support the conclusions that the Project’s unnatural light would be “dark sky-compliant” and would not pose a nuisance to viewers of the night sky.

In addition, the Draft PA/EIS/EIR fails to explain why the night sky was omitted from the Project’s Scenic Quality Rating. To determine the Scenic Quality Rating, the BLM is required to consider seven key factors, among them “adjacent scenery” and “scarcity.” Draft PA/EIS/EIR at 3.18-7; BLM Visual Resource Inventory Manual at 8. The starry night skies constitute scenery that is scarce and is also adjacent to the Project area. The Preserve contains some of the last remaining harbors of natural darkness – an endangered resource that attracts recreational visitors. National Park Service, Night Sky, [www.nature.nps.gov/night/index.cfm](http://www.nature.nps.gov/night/index.cfm) (last visited March 2, 2014). Fifty-five percent of the Preserve visitors surveyed in 2003 rated stargazing and the night sky as either very or extremely important features. Yen, Mojave National Preserve Visitor Study Fall 2013 at 36. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the night sky within its Scenic Quality Rating, so that both the public and the Lead Agencies can make a well-informed decision about the Project’s visual impacts on the night sky.

**2. *The Draft PA/EIS/EIR Fails To Substantiate Its Summary Conclusion Regarding Glint and Glare***

The Draft PA/EIS/EIR fails to justify its conclusion that the Project’s solar panels would not create a strong visual contrast with the surrounding areas in view of the Project site. The Draft PA/EIS/EIR acknowledges that the “[g]lare produced by diffuse reflections would increase the color contrast of the Project in the landscape,” and that this reflection would vary “depending on panel orientation, sun angle, viewing angle, viewing



distance, and other factors.” Draft PA/EIS/EIR at 3.18-24 – 3.18-25. Nonetheless, the Draft PA/EIS/EIR definitively concludes that the glare “would not be sufficiently intense or distracting as to increase any of the contrast ratings ... to ‘strong,’” without adequately explaining how the facts provided justify this conclusion. *Id.* at 3.18-25. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to provide facts or analysis to support this conclusion.

**E. The Draft PA/EIS/EIR Fails to Adequately Consider the Project’s Long-Term Aesthetic Impacts**

The Draft PA/EIS/EIR fails to adequately analyze the Project’s direct and indirect long-term aesthetic impacts. Under NEPA, “[a]n environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of “past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7; *see also* §§ 1508.8 (including ecological [and] aesthetic...impacts) and 1508.25(a)(2), (c); *Colorado Env’tl. Coal. v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999). The Draft PA/EIS/EIR must examine the direct visual impacts caused by displacing flora in and around the 4,179 acre Project site, along with the indirect visual impacts caused by the displacement of fauna due to the disappearance of flora. The vegetation, wildlife, and migratory birds within the Preserve and other surrounding regions are an integral part of the visual landscape in and around the Project site. The long-term displacement of flora and fauna constitute significant direct and indirect visual impacts. The displacement of flora and fauna would be even more pronounced if the Project engages in groundwater-pumping that proves detrimental to the sustainability of the Soda Spring groundwater system. *See e.g.* Section III. At a minimum, NEPA and CEQA require that the Lead Agencies revise the Draft PA/EIS/EIR to provide an adequate analysis of the Project’s long-term, direct and indirect aesthetic impacts on the lands surrounding the Project area, including the Preserve.

**F. The Draft PA/EIS/EIR Fails to Analyze the Project’s Economic Effects of Fewer Preserve Visitors Due to the Project’s Visual Impacts**

The Draft PA/EIS/EIR fails to adequately disclose and consider the economic effects of fewer people visiting the Preserve due to the Project’s adverse visual impacts. Under NEPA, an environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of “...reasonably foreseeable actions (including...economic...impacts).” 40 C.F.R. § 1508.7; *see also* §§ 1508.8; 1508.25(a)(2), (c); *Colorado Env’tl. Coal.*, 185 F.3d at 1176-77. In addition to providing enormous aesthetic value, the Preserve is also a local and regional economic engine for the residents of San Bernardino County and the state of California.<sup>22</sup> In 2010, 600,897 people visited the Preserve, spending an estimated

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<sup>22</sup> National Parks in the western United States offer growing high-tech services industries a competitive advantage. As such, federal public lands support faster rates of job growth and are correlated with higher levels of per capita income, “which is a major reason why

\$13,297,969 and supporting 228 jobs in the local economies. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014). By diminishing the beauty of the vistas that attract many Preserve visitors, the Project's visual impacts may reduce the number of non-local visitors to the Preserve, thereby threatening the economic life of the Preserve's gateway communities. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to fully consider and disclose the potential indirect economic effects that would result from a reduction in Preserve visitors due to the Project's adverse impacts on the vistas and visual landscape enjoyed in the Preserve.

## **IX. The Draft PA/EIS/EIR fails to adequately discuss cumulative impacts**

The Draft PA/EIS/EIR's cumulative impacts analysis is deficient because it does not adequately discuss the cumulative impacts that the Project will have on western burrowing owl, American badger, desert kit fox, connectivity for the desert bighorn sheep, and visual resources. A cumulative impact is an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7. An EIS must "analyze the combined effects of the actions [in the area] in sufficient detail to be useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts." *Muckleshoot Indian Tribe*, 177 F.3d at 810. "A proper consideration of the cumulative impacts of a project requires some quantified or detailed information ...." *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 993 (9th Cir. 2004).<sup>23</sup> Cumulative impacts analyses are inadequate where they contain only "general statements about possible effects and some risk ...."<sup>24</sup> *Id.*

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the western economy has outperformed the rest of the U.S economy in employment, population, and personal income during the last four decades." Headwaters Economics, West is Best: Protected Lands Promote Jobs and Higher Incomes, <http://headwaterseconomics.org/land/west-is-best-value-of-public-lands> (last visited March 2, 2014).

<sup>23</sup> CEQA requires an EIR to discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is cumulatively considerable based on an assessment of the project's incremental effects "viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects." Cal. Code Regs. tit. 14 §§ 15065(a), 15130(a).

<sup>24</sup> In *Klamath-Siskiyou*, the court held that the BLM's analysis of cumulative impacts for a timber sale was insufficient because it "[did] not provide any objective quantification of the impacts." *Id.* at 994. Instead, the EIS in that case merely contained "a list of environmental concerns such as air quality, water quality, and endangered species ...." *Id.* at 995. As such, the court held that the BLM's "conclusory statements that the [cumulative] effects are not significant or will be effectively mitigated" were insufficient to satisfy the requirements of NEPA. *Id.* at 996.

The Draft PA/EIS/EIR does not discuss cumulative impacts on the western burrowing owl, American badger, or desert kit fox. The Draft PA/EIS/EIR states “[t]he four identified cumulative projects within 10 miles of the Project would presumably result in impacts to burrowing owl, American badger and desert kit fox similar to those for the Project.” Draft PA/EIS/EIR at 3.4-50. This statement merely concludes that other projects in the area may have similar effects as the Project on these species. However, the Draft PA/EIS/EIR does not actually discuss the cumulative impacts of these projects and fails to include an analysis of the manner in which the impacts of other projects in the area might combine with those of the Project to cumulatively impact the identified species. Furthermore, much like the analysis in *Klamath-Siskiyou*, the Draft PA/EIS/EIR simply lists possible adverse effects on these species, such as “the direct loss of suitable habitat, loss of individual animals, or indirect effects from human presence that result in changes to habitat ....” *Id.* The Draft PA/EIS/EIR does not provide any objective quantification of these potential impacts.

Moreover, the Draft PA/EIS/EIR concludes that “[t]he implementation of mitigation measures identified to protect American badger and desert kit fox (3.4-1b), protect burrowing owls (3.4-1f), and mitigate habitat losses (3.4-2d) would reduce Project impacts to these species ....” Draft PA/EIS/EIR at 3.4-50. This conclusory statement is not framed in terms of *cumulative* impacts of the Project, but is framed in terms of the Project’s independent, direct impacts on the identified species. Furthermore, the Draft PA/EIS/EIR does not describe the manner in which these mitigation measures might minimize any impacts, let alone cumulative impacts.<sup>25</sup> Rather, the Draft PA/EIS/EIR states that such measures will mitigate Project impacts without any evidence to support such a conclusion. This is a conclusory statement of the type that the court in *Klamath-Siskiyou* identified as inadequate. As such, the Draft PA/EIS/EIR’s analysis of cumulative impacts on the western burrowing owl, American badger, and desert kit fox is insufficient. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the cumulative impacts on these species.

In addition to the deficient cumulative impacts analysis described above, the Draft PA/EIS/EIR does not discuss any cumulative impacts on the connectivity of desert bighorn sheep metapopulation fragments. As discussed above in Section VI above, connectivity is vital for genetic diversity in desert bighorn sheep, and the area in which the Project would be located is crucial for such connectivity. Because these animals tend to avoid human activity, the combination of various large-scale human developments in the area may pose additional obstacles for the desert bighorn sheep to maintain connectivity. As such, the Draft PA/EIS/EIR should discuss the potential cumulative impacts that the Project would have on the connectivity between desert bighorn sheep metapopulation fragments.

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<sup>25</sup> CEQA requires an EIR to examine reasonable options for mitigation or avoiding a project’s contribution to significant cumulative impacts. Cal. Code Regs. tit. 14 § 15130(b)(3).

Finally, the Draft PA/EIS/EIR only discusses the cumulative impacts that the Project will have on visual resources from the perspective of a traveler on Interstate 15. Draft PA/EIS/EIR at 3.18-31 – 3.18-33. The Lead Agencies fail to include any discussion of the cumulative impact that various projects in the area might have on the viewsheds in the Mojave National Preserve. In particular, the Draft PA/EIS/EIR omits any discussion of the cumulative impacts on the night sky, a resource that visitors to the Preserve highly value. The accumulation of large-scale development in the region in which the Project is located has the potential to adversely impact the night sky, because increased development may cause an increase in the emission of artificial light into the night sky. As discussed in Section VIII, this result would be an adverse impact because visitors to the Mojave National Preserve cherish its night sky precisely because it lacks artificial light. Therefore, the Lead Agencies should revise the Draft PA/EIS/EIR to include a discussion of the cumulative impacts on the visual resources of the Mojave National Preserve.

## **X. THE DRAFT PA/EIS/EIR FAILS TO PROPERLY CONSIDER APPLICABLE LAND USE PLANS**

NEPA and CEQA require a lead agency to analyze whether a proposed project is consistent with federal, regional, state, and local land use plans, policies, and controls for the area concerned. 40 C.F.R. § 1502.16(c), 1506.2(d); Cal. Code Regs. tit. 14 § 15000–15387. NEPA requires the EIS to discuss “[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.” 40 C.F.R. § 1502.16. “To better integrate environmental impact statements into State or local planning processes, statements shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law.” 40 C.F.R. § 1506.2. Here, the Draft PA/EIS/EIR fails to adequately consider the County’s land use plans in its Visual Resource Classification of the Project area.

### **A. The Draft PA/EIS/EIR is Inconsistent with the Open Space Element of the San Bernardino County General Plan**

The County of San Bernardino General Plan (General Plan) is largely applicable to the entire County, including the “non-jurisdictional” County-lands that BLM owns and administers. Draft PA/EIS/EIR at 3.18-11 – 3.18-12. Specifically, the General Plan’s Open Space Element (Element) applies to the “Desert Region” that encompasses the Project site. This Element states that its goal is to “preserve and protect cultural resources throughout the County, including parks, areas of regional significance, and scenic, cultural, and historic sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.” *Id.* at 3.18-12. The General Plan also states the goal of maintaining and enhancing “the visual character of scenic routes in the County,” along with the policy of designating “areas that provide a vista of undisturbed natural areas” as scenic resources. *Id.*

The Draft PA/EIS/EIR states the goals and policies of the Plan's Open Space Element, but it fails to provide any analysis to explain how the Project is consistent with the General Plan in regards to those goals and policies. Given the Draft PA/EIS/EIR's determination that the Project will have a negative visual impact on undisturbed natural areas, a revised Draft PA/EIS/EIR that adequately analyzes whether the Project is consistent with the Plan's Open Space Element is required. *Id.* at 3.18-40.

**B. The Draft PA/EIS/EIR is Inconsistent with Amendments to the San Bernardino County General Plan That Relate to Solar Energy Generation Facilities**

The Draft PA/EIS/EIR fails to adequately analyze whether the Project is consistent with the County's General Plan. In response to County residents' concerns about commercial solar energy development in proximity to residential land uses, the County authorized the Land Use Services Department "to prepare a Renewable Energy Element of the General Plan" (Plan Amendment). Memorandum from Tom Hudson, Director, Land Use Services Dep't, San Bernardino, Cnty. to Honorable Board of Supervisors (July 17, 2013) (on file with Land Use Dep't).<sup>26</sup> As a precursor to the completion of the Plan Amendment, on June 12, 2013, the San Bernardino Planning Board adopted Interim Urgency Ordinance No. 4198, which established a temporary moratorium on approval of commercial solar energy generation projects. *Id.* Subsequently, the County Board of Supervisors adopted an ordinance amending Chapters 84.29 and 810.01 of the County Development Code. San Bernardino, Cal., Ordinance Amending Chapter 84.29, Renewable Energy Generation Facilities, and Chapter 810.01, Definitions of the San Bernardino County Development Code, Relating to the Regulation of Commercial Solar Energy Generation Facilities (Dec. 17, 2013) (hereafter referred to as Renewable Energy Ordinance). Accordingly, the Renewable Energy Ordinance should be interpreted as expressing the intent of the General Plan until the Plan Amendment is complete.

The Renewable Energy Ordinance "recognizes not only the substantial intrinsic value of the desert's natural and scenic setting, but also the importance of this setting for the quality of life of area residents and the economic value it creates for the area's tourism industry." *Id.* at § 1(a)-(b). In order to approve a commercial solar facility, the Planning Commission must find "[t]he siting and design of ... the facility will be either: unobtrusive and not detract from the natural features, open space and visual qualities of the area ... or ... be located in such proximity to already disturbed lands ... that it will not further detract from the natural features, open space and visual qualities of the area ...." *Id.* at § (3)(c)(3)(A)-(B). For "proposed facilities within two (2) miles of the Mojave National Preserve boundaries ... commercial solar energy facilit[ies] will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Preserve." *Id.* at § (3)(c)(26). Furthermore, "[t]he proposed commercial solar energy generation facility will not adversely affect to a significant degree the availability of groundwater supplies ... [and]

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<sup>26</sup> The Plan Amendment is estimated to take approximately 18 months. *Id.*

will be sited so as to avoid or minimize impacts to the habitat of special status species, including ... important habitat/wildlife linkages or areas of connectivity designated by County, state or federal agencies, and areas of Habitat Conservation Plans or Natural Community Conservation Plans that discourage or preclude development.” *Id.* at § (3)(c)(6), (9).

To achieve consistency with the Renewable Energy Ordinance, the BLM should strive to site the Project on disturbed lands and/or an area in which the Project will (1) not detract from the open space and visual qualities that are unique to the Preserve; (2) not threaten the groundwater of Soda Springs, the habitat of the endangered tui chub and critical connectivity area for the Bighorn Sheep; and (3) not harm the economies of the local surrounding areas. Moreover, a revised Draft PA/EIS/EIR should analyze whether the Project is consistent with the County’s General Plan.

#### **XI. THE DRAFT PA/EIS/EIR FAILS TO ADEQUATELY CONSIDER WHETHER AN AMENDMENT TO THE CDCA PLAN IS CONSISTENT WITH THE CDCA**

The Project site is within a portion of the CDCA that is currently not identified as suitable for solar power generation, and part of the site (2,108 of the 4,179 acres) is within lands designated as Multiple Use Class L for limited use. Draft PA/EIS/EIR at 3.9-13. If the BLM approves a ROW grant for any one of the proposed Project areas, a CDCA Plan Category amendment would be required. *Id.* The BLM should have fully considered a range of alternatives that exclude Multiple Use Class L lands, because “Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values.” Department of the Interior, California Desert Conservation Area Plan as Amended at 13 (1980). “Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” *Id.* Instead, the BLM should fully consider a range of alternatives comprised solely of Multiple Use Classes M and I lands, which allow for moderate and intensive uses. These classes were established for the potential approval of multiple uses involving more intensive development. *Id.* Class I in particular “provide[s] for concentrated use of lands and resources to meet human needs,” such as a utility-scale solar PV installation. *Id.*

The Draft PA/EIS/EIR fails to properly address the Projects’ impacts to Multiple Use Class L lands and their sensitive natural and cultural resources, as well as the loss of multiple uses on those lands.<sup>27</sup> Although the CDCA Plan allows for consideration of wind and solar energy generation facilities within Multiple Use Class L lands, any proposed facility, such as the Project, must conform to the management principles and guidelines for such activities. Draft PA/EIS/EIR at 3.9-14 – 3.9-15. There has been no

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<sup>27</sup> In the development and revision of land use plans, BLM must “give priority to the designation and protection of areas of critical environmental concern . . . [and] consider the relative scarcity of the values involved and the availability of alternative means . . . and sites for realization of those values.” 43 U.S.C. § 1712(c)(3), (6).



meaningful analysis of how construction and maintenance of the 4,179-acre fenced utility-scale project proposed under Alternative A would conform to the Multiple Use Class L management principles and guidelines. Therefore, the Lead Agencies should revise the Draft PA/EIS/EIR to provide this analysis.

## **XII. THE COUNTY SHOULD DENY THE APPLICATION FOR A GROUNDWATER EXTRACTION PERMIT**

The Project does not satisfy the requirements for obtaining a permit for operation of a groundwater well under the County's Desert Groundwater Management Ordinance. San Bernardino County, Cal., Code, tit. 3, div. 3, ch. 6, art 5 § 33.06551 *et seq.* (Desert Groundwater Ordinance) The County passed the Desert Groundwater Ordinance to protect the groundwater resources within the County to safeguard the "public health, safety and general welfare of the people of the State of California and of the County," which depend upon the continued availability of groundwater. *Id.* § 33.06551(a). The aim of the Desert Groundwater Ordinance is to ensure "that extraction of groundwater does not exceed the safe yield of affected groundwater aquifers, considering both the short and long-term impacts of groundwater extraction, including the recovery of groundwater aquifers through natural as well as artificial recharge." *Id.*

In order to extract groundwater within the County, a person must either obtain a groundwater permit pursuant to section 33.06554 of the Desert Groundwater Ordinance or the County must grant an exclusion from the permitting requirement pursuant to section 33.06552. *Id.* § 33.06554(f). The County will deny an application for a permit where it determines the applicant has not met the standards of the Desert Groundwater Ordinance and "where the well operations proposed would result in exceeding the groundwater safe yield of the relevant aquifers." *Id.* The Desert Groundwater Ordinance defines groundwater safe yield as "the maximum quantity of water that can be annually withdrawn from a groundwater aquifer (i) without resulting in overdraft (ii) without adversely affecting aquifer health and (iii) without adversely affecting the health of associated lakes, streams, springs and seeps or their biological resources." *Id.* § 33.06553. Overdraft occurs when "the average annual amount of water withdrawn by pumping exceeds the average annual amount of water replenishing the aquifer in any ten year period, considering all sources of recharge and withdrawal." *Id.*

Here, the County must deny an application for a permit to extract groundwater from beneath the Project site because the extraction will (i) result in overdraft and (ii) adversely affect the health of Soda Spring and associated biological resources. The Draft PA/EIS/EIR concludes that there will be no overdraft of the aquifer at Soda Mountain Valley. As described in Appendix H, this conclusion is not supported by adequate analysis. Furthermore, the extraction of water from Soda Mountain Valley may impact the level of groundwater at Soda Spring. Myers, *supra*, at 6. Soda Spring not only supports the federally-listed endangered Mohave tui chub, but also supports a variety of other wildlife, including birds and the desert bighorn sheep. *See* Section V. The Project will not only result in overdraft of Soda Spring, but would adversely affect its

“associated biological resources.” Therefore, the County should deny a groundwater extraction permit for the Project.

### **XIII. ORAL COMMENTS ON THE DRAFT PA/EIS/EIR WERE NOT ACCURATELY RECORDED**

We are concerned that the manner in which the Lead Agencies recorded oral comments at its public meetings precluded the agencies from accurately capturing these comments. As a result, such comments may not be given the appropriate consideration required by NEPA and CEQA. The Lead Agencies held three public meetings to accept public comment on the Draft PA/EIS/EIR, but did not adequately record the oral comments given at these meetings.<sup>28</sup> An agency preparing a final EIS must assess, consider and respond to comments received on a draft EIS.<sup>29</sup> 40 C.F.R. § 1503.4. BLM itself recognizes that “[p]ublic involvement is an important part of the NEPA process.” BLM NEPA Handbook at 62.

The Lead Agencies did not transcribe (using a stenographer or equivalent) or record (using an audio or visual recording device) the oral comments that the public gave during the meetings that the Lead Agencies specifically convened for the purpose of soliciting public comments on the Draft PA/EIS/EIR. The oral comments were “recorded” by BLM personnel taking handwritten notes. This method of documenting the oral comments cannot accurately or adequately capture the substance of the comments and does not allow the Lead Agencies to appropriately respond to the comments as required by NEPA and CEQA.<sup>30</sup> By inadequately documenting the oral comments given on the Draft PA/EIS/EIR, the Lead Agencies have undermined their ability to evaluate and respond to comments and their ability to fulfill NEPA and CEQA’s purpose of informed decisionmaking.

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<sup>28</sup> BLM held three meetings on January 8, 9, and 11, 2014. These meetings were scheduled to receive “public comment on the Soda Mountain Solar Project’s draft environmental documents.” Bureau of Land Management, *Soda Mountain Solar Project Page*, [http://www.blm.gov/ca/st/en/fo/barstow/renewableenergy/soda\\_mountain.html](http://www.blm.gov/ca/st/en/fo/barstow/renewableenergy/soda_mountain.html), last visited March 3, 2014.

<sup>29</sup> CEQA similarly requires a lead agency to evaluate and respond to comment on a draft EIR. Cal. Pub. Res. Code § 21091(d). A key purpose of the comment process is to bring deficiencies in the draft EIR to the attention of decisionmakers. Cal. Code Regs. tit. 14 § 15200, 15204.

<sup>30</sup> BLM recognizes the limitations of using notetaking to record oral comments as it is BLM’s policy that at public meetings, BLM officers “offer the commenter the opportunity to record his or her comment in writing” in order “to ensure that the true intent of the comment is captured.” BLM NEPA Handbook at 65.

#### **XIV. CONCLUSION**

The Lead Agencies should not take lightly, the decision to construct a utility-scale solar facility next to the National Mojave Preserve. Under NEPA and CEQA, the decision must not be made without first ensuring that both the public and decisionmakers have the necessary information to understand potential impacts and make an informed choice about the Project. For all the reasons discussed in this comment letter, the attached appendices, and the comment letter submitted by the Defenders of Wildlife, the Draft PA/EIS/EIR for this Project fails to satisfy NEPA and CEQA's standards. NPCA and SBVAS therefore strongly urge the BLM and County to revise and reissue the Draft PA/EIS/EIR and allow the public sufficient time to provide written comments and testimony at a public hearing following the re-release.

In addition, the County should deny the application for a permit to extract groundwater because the Project's pumping will overdraft the aquifer and adversely affect the health of Soda Spring and its associated biological resources.

Sincerely,



Seth Shteir  
California desert senior field representative  
National Parks Conservation Association



Drew Feldman  
Conservation Committee Chair  
San Bernardino Valley Audubon Society

Jeffrey Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553  
sodamtnsolar@blm.gov

by mail and email

March 3, 2014

Dear Mr. Childers:

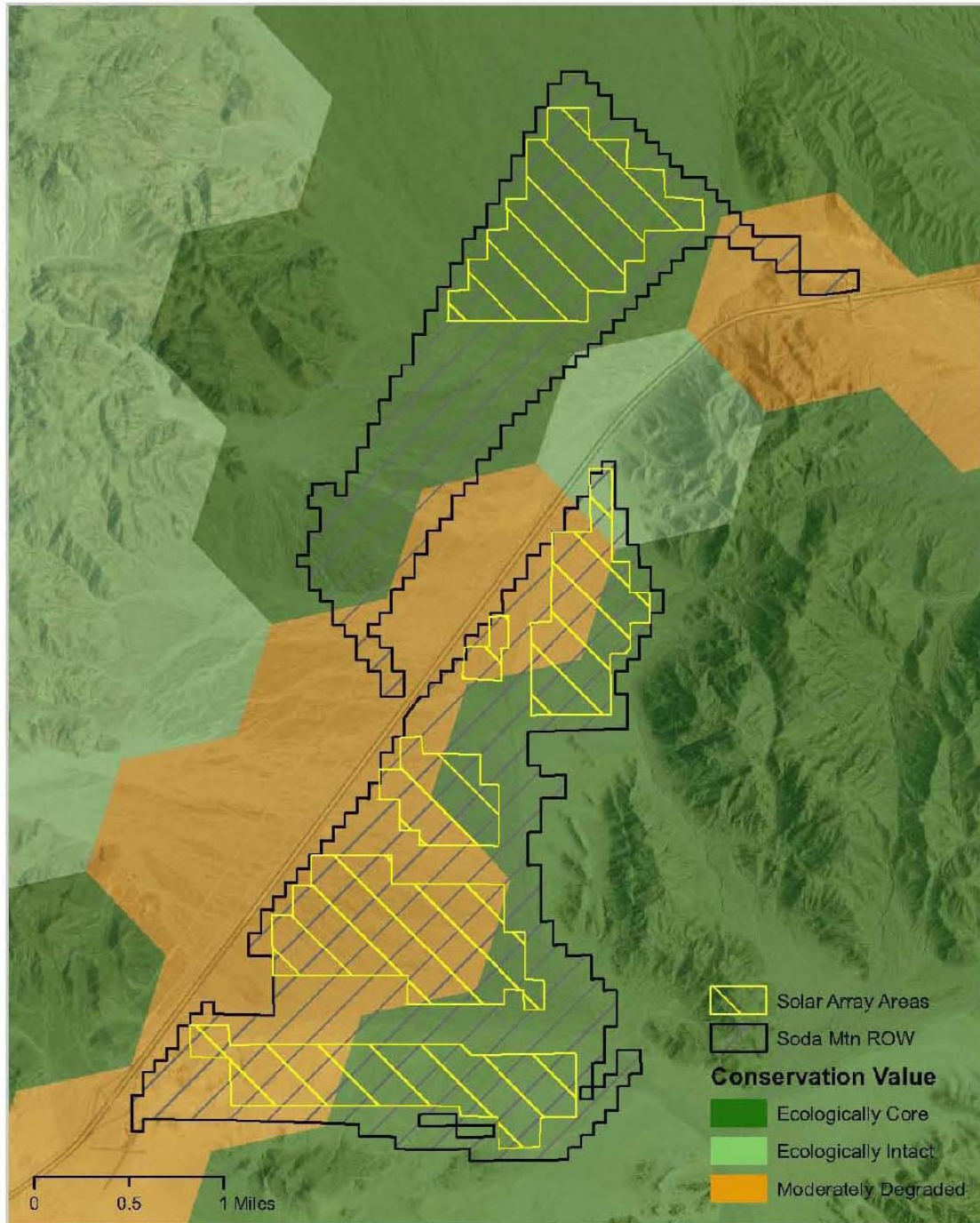
### ***Introduction***

The Nature Conservancy (“the Conservancy”) is an international non-profit organization devoted to preserving the lands and waters upon which all life depends. Since the 1970s, The Conservancy has worked to protect biodiversity and habitat in the eastern Mojave Desert. Most recently, the Conservancy has participated actively in the Bureau of Land Management’s (BLM’s) Solar Programmatic Environmental Impact Statement (SPEIS) and in the Desert Renewable Energy Conservation Plan (DRECP) proceedings, contributing a Mojave Desert Ecoregional Assessment (MDEA) that evaluated conservation value across the entire desert ([http://scienceforconservation.org/downloads/mojave\\_desert\\_ecoregional\\_assessment](http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment)). The Conservancy has also focused on protection of desert groundwater and surface water sources.

The Conservancy has primarily advocated that renewable energy facilities preferentially locate in areas that will minimize impact, such as on already disturbed lands, away from high quality habitat and outside of key migration corridors used by desert species. Apart from the Interstate 15 corridor itself, the proposed Soda Mountain project would be sited in and adjacent to intact, high quality, occupied habitat and would likely interrupt migration corridors for a number of key desert species. We have attached two maps of the proposed project area at different scales derived from the Conservancy’s Mojave Desert Ecoregional Assessment (Figure 1 and Figure 2), overlain with plots of the project. These maps show that while the interstate corridor is moderately degraded (in yellow) much of the project itself is located in areas that our assessment has identified as “ecologically core” or “ecologically intact” habitat. Ecologically core lands contain low levels of anthropogenic disturbance and support conservation targets (e.g., species, habitats, seeps, springs). In the Conservancy’s view, protection of ecologically core lands is critical for the long-term conservation of the biological diversity of the Mojave Desert ecoregion. Ecologically intact lands are those with low levels of anthropogenic disturbance that also support conservation targets. Ecologically intact lands, in our view, also require protection of ecological processes and connectivity.

Figure 1

## Soda Mountain ROW Conservation Value



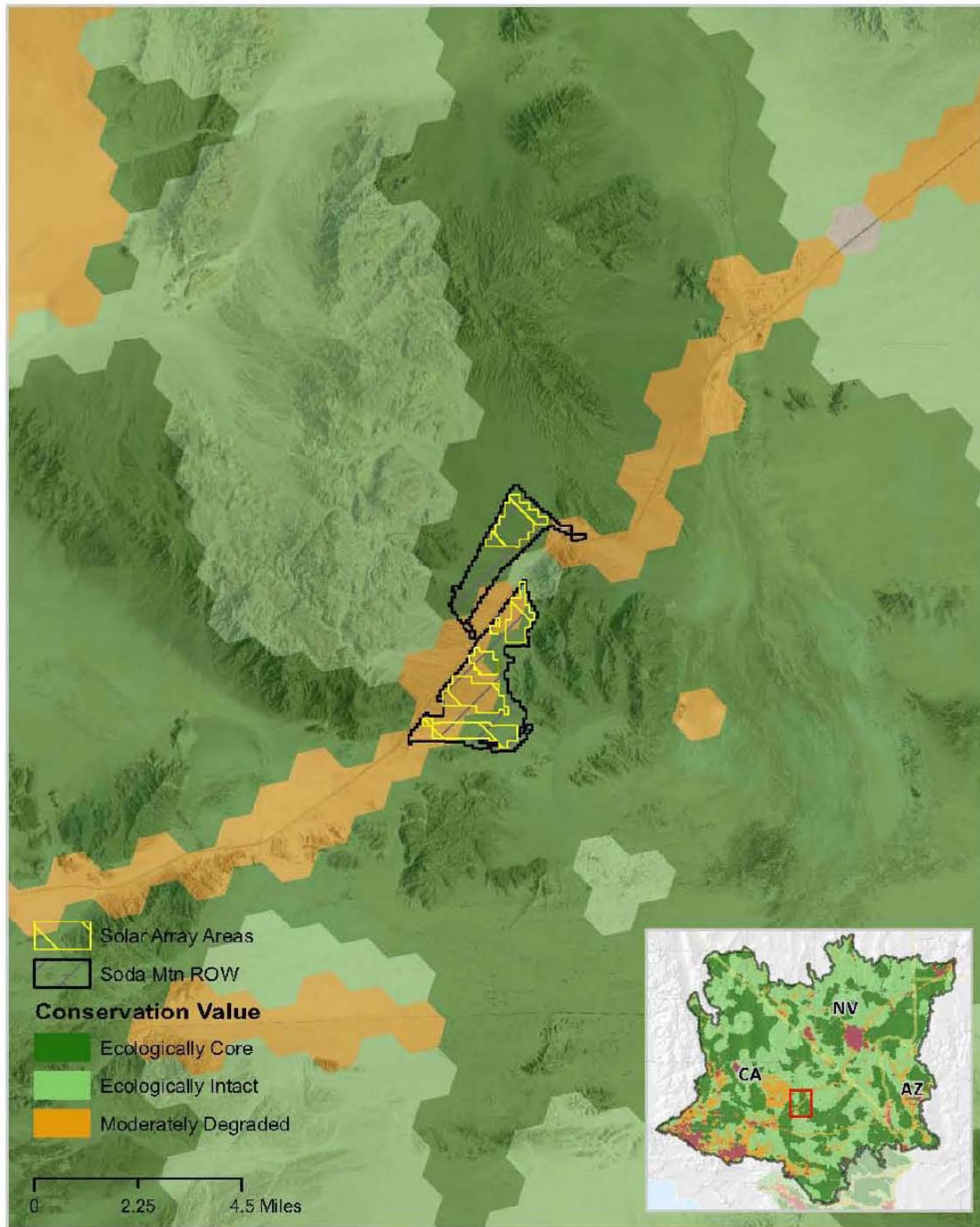
Conservation Value from The Nature Conservancy, 2010  
Solar Arrays interpreted from Vol 2\_Soda Mtn EIS-EIR\_App A-D\_508



Figure 2



## Soda Mountain ROW Conservation Value



Conservation Value from The Nature Conservancy, 2010  
Solar Arrays Interpreted from Vol 2\_Soda Mtn EIS-EIR\_App A-D\_508



Based on our analysis, the maps demonstrate that the project is proposed on and between large swaths of excellent, ecologically core habitat that would be adversely affected by project construction and operation.

In addition to, and confirming the Conservancy's analysis of the habitat values of this area, we have included a third map (Figure 3, titled "Intactness") with the project area overlain on a map prepared and released by the DRECP agencies, that represents their assessment of habitat intactness in the desert.

As we discuss below, we believe that the project would adversely affect a number of species, including Burrowing Owls, desert tortoise, bighorn sheep and kit fox. The proposed proposed avoidance and mitigation requirements in the draft for these species are inadequate.

The project also proposes to pump groundwater from a desert basin that may supply a critical spring (Zzyzx), lowering basin water levels, and potentially endangering a listed fish and other wildlife and riparian vegetation. Quite small decreases in groundwater levels can adversely affect existing spring flows, changes which can often be irreversible. Very little site-specific hydrologic information is available to justify the conclusion that the mitigated effects of the pumping would not be significant. The draft Environmental Impact Statement (EIS)/ Environmental Impact Report (EIR) would inappropriately rely on future unspecific and contingent mitigation actions to avoid harm.

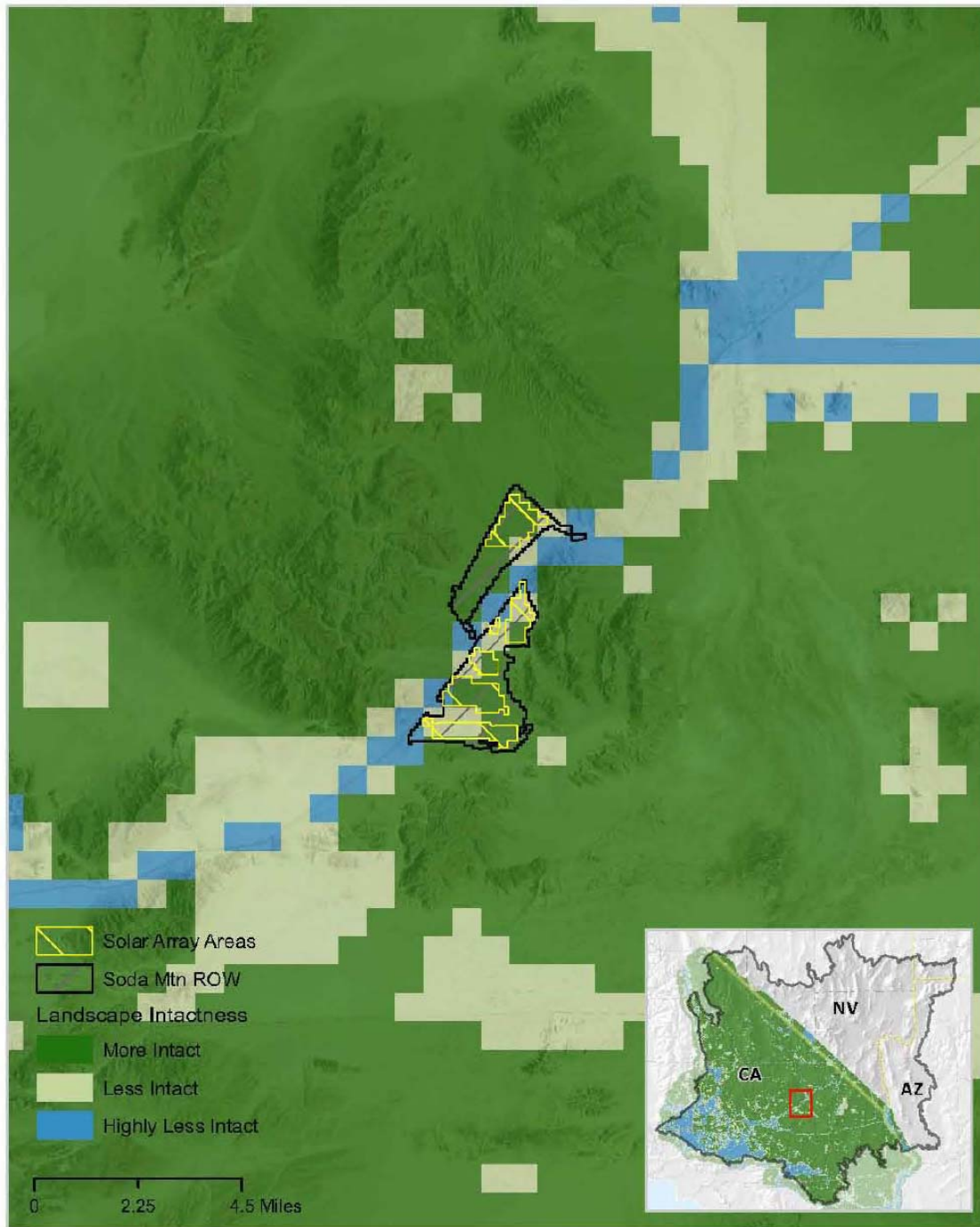
BLM has denominated the Soda Mountain Project a "pending application," not covered by specific provisions of the SPEIS. However, the agency's fundamental obligations to protect species, habitats and water resources have been unchanged since the enactment of the Federal Land Policy and Management Act (FLPMA) in 1976. These obligations were adopted in a number of preexisting instructional memoranda and, most recently, interpreted by Secretary Jewell's first secretarial order (Order No.3330) to establish a universally applicable mitigation policy, adhering to the avoid, minimize, and compensate mitigation hierarchy.

### ***Species Specific Concerns***

**Burrowing Owl** (*Athene cunicularia*) would be negatively impacted by the development of the Soda Mountain site. The Burrowing Owl is a United States Fish and Wildlife Service (USFWS) Species of Concern, a BLM Sensitive Species, and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. According to the Biological Resources Technical Report for the Soda Mountain Solar Project, "It is likely that a number of the burrowing owls observed in the fall were using the project area for forage during migration. Only a portion of the owls observed on the site would be expected to over-winter in the area; other owls were likely migrating (Schnurrenberger 2012)." It is important to note that Catherine Schnurrenberger is a botanist at Garcia and Associates, and was surveying the project site for botanical values, not for burrowing owls. Definitive statements about the migratory status of burrowing owls at the project site cannot be made until burrowing owl surveys have been conducted at the site. According to burrowing owl experts, both year-round residents and migratory Burrowing Owls are found in the desert southwest (Haug et al. 1993). In the Mojave Desert, Burrowing Owls lay their eggs, raise their young, and hide from the heat of the sun from March through October in

Figure 3

## Soda Mountain ROW Landscape Intactness



Landscape Intactness CBI, <http://drcp.databasin.org/galleries/bdb170f67f8c48b78c6a763549e62dc3#>  
Solar Arrays Interpreted from Vol 2 Soda Mtn EIS-EIR App A-D\_508

burrows previously excavated by desert tortoises, ground squirrels, and other fossorial (burrowing) animals. Garrett and Dunn (1981) stated that “open desert scrub” in the Mojave Desert is “widely but sparsely inhabited” by Burrowing Owls. Recent US Geological Survey (USGS) survey data from southern Nevada yielded estimates of 0.07-0.17 owl territories/km<sup>2</sup> in the Mojave Desert (Crowe and Longshore 2010). In the Marine Corps Air Ground Combat Center at Twentynine Palms, California, survey data showed that there were 0.9 owl territories/km<sup>2</sup>. Given the observed use of the site by 9 Burrowing Owls, and the presence of 24 active Burrowing Owl burrows at the project site, a thorough survey for this species must be conducted to understand status of the species at this site—before project approvals are given.

**Other bird species** The Biological Resources Technical Report for the Soda Mountain Solar Project includes observations of **45 other native bird species** from the project site. All of these may well be negatively impacted by the development of the Soda Mountain project, as the bajadas and washes that would be disturbed by development contain natural habitats that are used as nesting, foraging, and/or migratory habitat by these bird species. Included on this list are a number of Neotropical migratory birds; the **Loggerhead Shrike** (*Lanius ludovicianus*), a CDFW Species of Special Concern; and the **Golden Eagle** (*Aquila chrysaetos*), which is nesting nearby and may use the project site to hunt for prey.

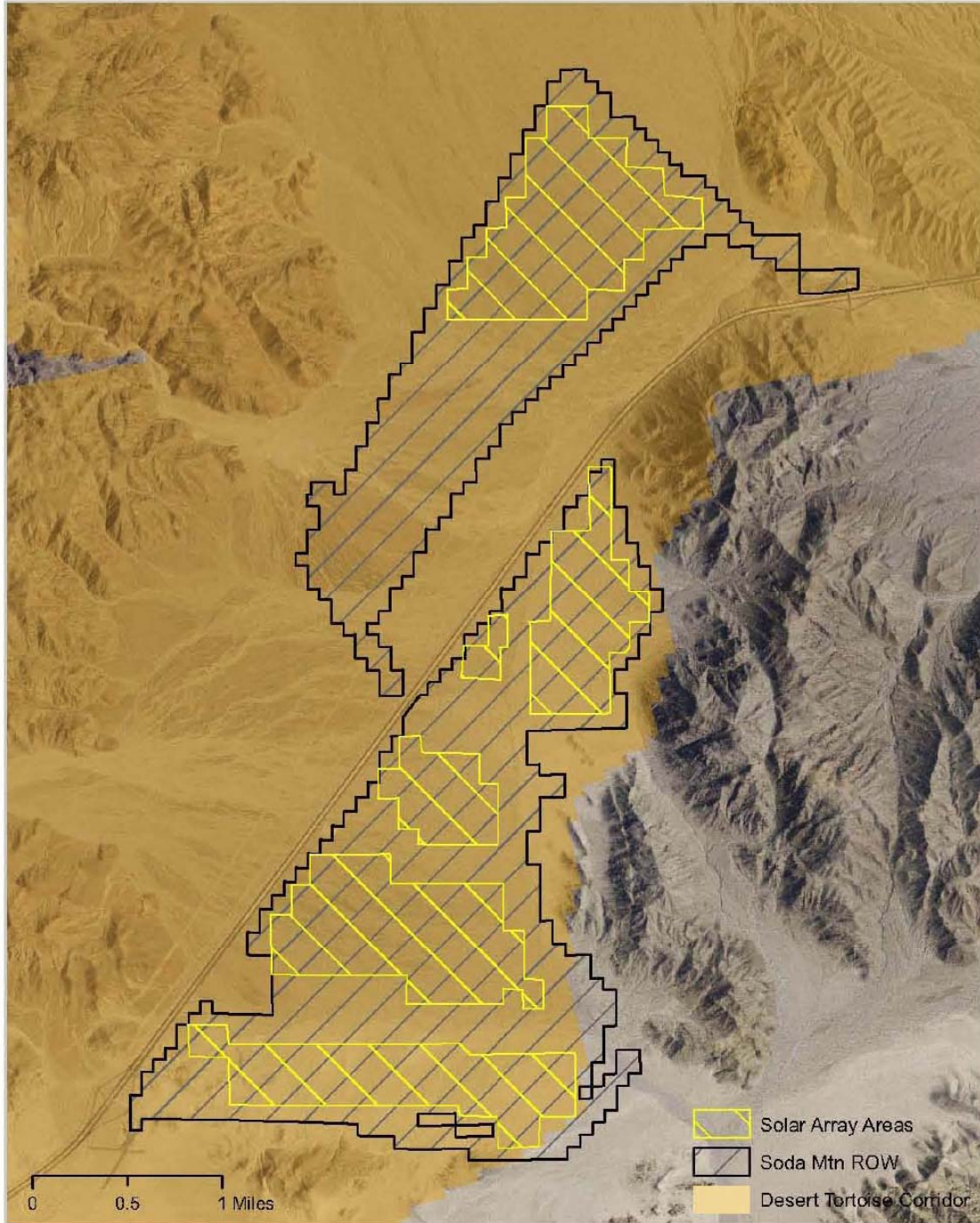
**Desert tortoise** (*Gopherus agassizii*) are present at the project site, and nearly the entire footprint for the project is located within a desert tortoise corridor as mapped by the USFWS (Averill-Murray et al. 2013; shown in light brown in Figure 4, titled “Desert Tortoise Corridors”). Preserving this connectivity for the desert tortoise is important for a number of reasons. The effective area of the 12 critical habitat units already designated for desert tortoise in the Mojave Desert will be increased by the linkage design, and the linkages will facilitate gene flow, prevent genetic isolation and divergence (Frankham 2006), and allow the desert tortoise to move in response to changes in climate or other conditions (Krosby et al. 2010). The Biological Resources Technical Report for the Soda Mountain Solar Project states that “limited sign of desert tortoise, combined with no identification of live tortoises in any of the project area surveys, indicate that there are likely a low number of desert tortoises inhabiting the project site” (Kiva Biological 2012a). “The data also indicate those tortoises are likely concentrated near the toes of hill slopes surrounding the project.” While desert tortoises may not have been recorded during official surveys, at least one live tortoise was observed on the project site (Jones 2013), and significant signs of desert tortoise were observed during each survey. Interference with a significant tortoise mitigation corridor should be avoided, and proposed mitigation in the form of 1:1 habitat acquisition is inadequate.

**Bighorn Sheep** (*Ovis canadensis nelsoni*) connectivity between the Soda Mountains north and south of I-15 and the project site could be severed by the development of the Soda Mountains solar project. As stated in the Biological Resources Technical Report for the Soda Mountain Solar Project, “The Desert Renewable Energy Conservation Plan (DRECP) identifies critical linkage areas at potential highway crossing locations along I-15 and I-40 using the expert opinion of John Wehausen (CEC 2012b). The entire Soda Mountain valley, including the project site and the surrounding mountains, is designated as a critical linkage in the DRECP.” Because the project site is known to have appropriate forage habitat for bighorn sheep, and because there are anecdotal reports of bighorn sheep in the vicinity of the project site, and a documented



Figure 4

## Soda Mountain ROW Desert Tortoise Corridors



Desert Tortoise Corridors from USGS, 2012  
Solar Arrays interpreted from Vol 2\_Soda Mtn EIS-EIR\_App A-D\_508

occurrence for the species only a half mile away from the project site, it is reasonable to assume that bighorn sheep use the project site. It is also reasonable to assume that development of the site will impact their ability to use the site for forage and as a movement corridor. The Biological Resources Technical Report states that “any potential bighorn sheep use of these underpasses is infrequent”, but this statement underscores a basic misunderstanding about the bighorn sheep movement—the genetic connectivity of these areas is maintained not by a movement of large herds of animals on a consistent or frequent basis, but by (often solo) male sheep that disperse from their herd to seek mates elsewhere. As the EIS/EIR notes, even with mitigation, adverse effects on bighorn sheep would be significant and unavoidable.

**Desert Kit Fox** (*Vulpes macrotis* ssp. *arsipus*) would be negatively impacted by the development of the Soda Mountain solar project, as surveys have recorded 57 kit fox dens on the project site. Beyond biological monitoring, no additional mitigation is proposed for this species, despite apparent adverse effects on substantial numbers of foxes.

**Mojave Tui Chub** (*Gila bicolor mohavensis*), a federal and state endangered species resides in Soda (Zyzzx) Spring and Lake Tuendae in the Mojave National Preserve, which may well be partially or wholly reliant on the same groundwater aquifer from which applicant proposes to pump. The groundwater issues potentially affecting this species are discussed below.

### ***Groundwater Issues***

The agency acknowledges that very little is directly known about the hydrology of the Soda Lake Valley and surrounding groundwater basins and subbasins. No wells penetrate the project area. No aquifer tests have been conducted. Aquifer locations, recharge, groundwater storage amounts, elevations, and flow directions are inferred from models populated without confirming subsurface data, indirect measurements and geological mapping (Draft EIS (DEIS) at 3.19-5). Fundamental information about the groundwater resource should be a critical precondition of project consideration and approval.

Despite the gross uncertainty about effects of project pumping and the absence of essential pre-project hydrologic knowledge, and admissions that project pumping could affect Zyzzx Spring, the DEIS largely concludes that adverse effects on the spring and Lake Tuendae wells are unlikely, since “the aquifer at the Project site is not known to be hydrologically connected to the aquifer that supplies Soda Spring and is pumped to fill Lake Tuendae.” While that connection may be absent or attenuated, the consequences of guessing wrong could be the irreversible loss of a rare desert spring and the species that rely on it. The combined applicant proposed mitigation measures (APM 14-18) and BLM additions to those measures (Mitigation Measures 3.19-3 and 3.19-4) would in all likelihood not remedy this problem. While a future aquifer test will apparently be conducted and monitoring wells designed to detect groundwater flows in the direction of the Zyzzx Spring will be installed, the monitoring, modeling and compensating actions are uncertain, confusingly stated, and at very least impose conditions on corrective action that are inadequately protective. For example, groundwater testing and monitoring plans are to be devised and approved to San Bernardino County standards after project approvals are in place; if adverse effects on the spring are detected, agencies “could require” reduction or

cessation of pumping, pursuant to undefined future standards. The DEIS also notes that if a reduction of fewer than 50 acre feet per year is detected at the outflow of the valley, no further monitoring would be required but does not provide any justification for this threshold. In addition, the standard for taking action based on adverse effects on the spring and endangered fish would place the burden of proof of causation on the agencies—an expensive and largely impossible task. Instead, the burden of proof that pumping will not negatively impact the spring and endangered fish should be on the project proponent.

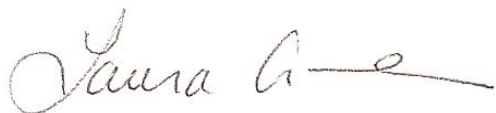
As the DEIS notes, it is important to predict and avert potential adverse effects before they occur, and to devise measures that protect ecological resources over the long term. While a groundwater monitoring and mitigation program *could* be devised to accomplish this, currently it is not, and by deferring effective planning and controls to future determination under vague standards, ecological resources will be threatened.

We are also concerned that by investing the county with the principal regulatory authority over groundwater withdrawal conditions from public lands, BLM has neglected its duty under its organic law to protect water resources under its jurisdiction. BLM controls land use on the proposed project site, and has the obligation irrespective of state water law to limit unreasonable and harmful use of groundwater on public lands.

The Conservancy has prepared and publicly disseminated our views on principles for responsible water use by desert solar facilities. (copy attached in Appendix A). In the case of at least one other pending application (e.g., Bright Source Hidden Hills proceeding before the California Energy Commission), BLM has expressed views very similar to those TNC has advocated in its water use principles. The most important of these are that the groundwater resource must be fully understood before proceeding with new pumping, and that effective monitoring with reduction/cessation triggers must be mandatory and in place prior to pumping to protect ecological resources such as springs.

We believe that BLM is required, under the National Environmental Policy Act (NEPA) and FLPMA, to require the applicant, before project approval, to clearly demonstrate that its proposed pumping will not have adverse effects on endangered species habitat and a vital desert spring, and to back that requirement with BLM approved specific monitoring, modeling and mitigation conditions.

Thank you for the opportunity to comment on this project.

A handwritten signature in dark ink, appearing to read "Laura Crane", with a stylized flourish extending to the right.

Laura Crane  
Director, Renewable Energy Initiative  
California Chapter  
The Nature Conservancy



## References for Species Effects.

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## Appendix A

### Principles for Responsible Water Use by Solar Energy Facilities in the Southwestern Deserts of the United States

# Principles for Responsible Water Use by Solar Energy Facilities in the Southwestern Deserts of the U.S.

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## Introduction

Large-scale solar development is an important component of a comprehensive renewable energy portfolio for the United States, and The Nature Conservancy encourages responsible siting of solar energy facilities. We work with natural resource agencies, energy developers and communities to ensure that solar development in the Mojave, Great Basin, and Sonoran deserts contributes to a more balanced energy portfolio, while preserving the unique ecological resources of our desert landscapes and ecosystems.

Industrial scale solar facilities can require significant amounts of water for cooling, cleaning mirrors, generating steam, and plant operations. Water use—especially pumped groundwater—in the desert can adversely affect ecological resources. Yet, there is an absence of clearly articulated, scientifically robust agency guidelines for water resource management and protection in the desert.

Impacts to the relatively few, usually small, riparian or wetland areas where water is present at the surface can have far-reaching implications for ecosystems and species, exacerbated by the effects of climate change.

Even small increases in water use can cause dramatic changes in water conditions, including critical reductions in spring flows, stream flows, wetland areas and groundwater levels; these losses, in turn, can devastate ecosystems that depend on the water. Because of the very low precipitation inputs, and correspondingly low flow-through rates in desert groundwater systems, impacts of groundwater pumping become evident very slowly and can persist for extremely long periods of time.

Given the importance of water to natural ecological systems in the desert, and the prospect of significant new demand for water by new solar facilities, it is critically important to establish standards and guidelines to prevent unacceptable impacts to local ecosystems.

We propose that the solar industry voluntarily adopt the following standards as best management practices and mitigation requirements. Individual facility measures should be formulated and adopted as permit requirements through applicable federal (NEPA) and state (CEQA) environmental review processes.

## Establish the Physical and Biological Context

**Inventory Water-focused Ecosystems and Water Conditions that Support Them** – Identify natural features where surface waters exist, including areas where near-surface groundwater conditions

support unique habitats. Conduct a thorough inventory of natural water features in the basin, including springs, streams (ephemeral and perennial), areas of high groundwater levels and the ecosystems that depend on these resources. This inventory should include: 1) a characterization of the water-supported habitat and the species that are known to reside in or otherwise depend upon the habitats; and 2) a characterization of the water conditions that support the habitat.

**Understand Basin Water Balance** – Prepare a comprehensive basin water balance for the relevant flow system using best available information to estimate inflows, outflows, developed use, and relative magnitude of new or planned water development. A basic understanding of the water balance for a given desert valley or watershed is essential to evaluating the reasonableness of each proposed development site. The appropriate flow system boundaries for defining the “basin” of interest must be established for each solar development site, and the rationale for that flow system definition should be developed using the best available information. In some cases, the flow system of relevance may be a single, isolated valley-fill groundwater basin, and in other cases the flow system may include downstream or adjacent valleys that receive, or may receive water, via surface or subsurface flows from the valley where the project is located. Cases of interbasin hydrologic connectivity via permeable bedrock aquifers are well documented in the region, and the possibility of this type of hydrologic connectivity should be explicitly considered. If an evaluation of the water balance defining “sustainable yield” already exists, it should be updated to reflect the most recent precipitation and water use data and new understanding of geology.

**Consider Cumulative Impacts of Multiple Projects** – Base all water resource evaluations on assumptions that consider the potential cumulative impacts of all current and reasonably likely future development in a basin, including non-energy water uses.

**Conduct Groundwater Modeling** – Require groundwater modeling to anticipate and avert impacts that would otherwise not be noticed until after it is too late to take corrective action. In many desert settings, the impacts of groundwater pumping may become evident over very long periods of time. In this case, reliance only on monitoring to identify impacts would mean permanent loss of natural communities. Therefore, modeling must be included in each development approval to anticipate the range of responses that may be expected over long periods of time, and to shape water use and monitoring strategies that ensure water resource sustainability in the basin. For each basin in which development is planned, a groundwater model should be built using the best available information, and simulations should be conducted to better understand the long-term (100-year range) response to the different development scenarios.

**Resolving Uncertainty** – In some instances, key information or parameters needed to understand and model the effects of groundwater pumping may be missing. Until adequate information is available, conservative (reasonable worst case) assumptions should be used to bound water withdrawal and use approvals. In all cases, collection and analysis of additional critical data and information during project life should be required. Where new information predicts significant adverse effects, conditions of water use should be appropriately modified.

## Project Design

**Minimize Project Water Use** – Minimize water use through selection of power production and associated technologies and operational protocols. As an example, use of dry cooling for concentrating solar generation facilities (or photovoltaic generation) should be emphasized and incentivized over wet cooling technologies. In addition, long-term operations protocols that minimize on-going water use for cleaning, dust control, and all other plant uses should be incorporated in solar development plans and permits.

**Reduce Third-Party Water Use** – Where there is already some level of developed water use in the basin, development permits should require a net reduction in total basin water use, unless a credible analysis demonstrates that additional water development can be accommodated in the basin without any negative environmental or water supply sustainability impacts. Mechanisms for meeting this requirement may include: 1) acquiring existing water rights to supply the facility and retiring or reducing the previous use of the acquired water to accommodate the planned new use or 2) providing for reduction in current use to accommodate the new use without increasing the total water use.

**Access Other Renewable Water Sources** – Where the infrastructure already exists, renewable water sources from outside of the basin should be considered as a water source for developments. While many desert valleys are isolated and wholly reliant on local water supplies, in some cases water sources from outside the basin, such as Colorado River water, California State Water Project Water, or desalination water may be accessible, and use of these outside resources may provide immediate and long term benefits. In these cases, an evaluation of the relative risks, costs and benefits of these renewable sources, as compared with using limited local water sources should be conducted. Where such an analysis indicates that use of renewable surface water supplies may be favorable and may avoid or reduce impacts from use of resident groundwater water supplies, preference should be given to use of renewable water sources.

**Use Optimal Withdrawal Sites** – Minimize impacts to natural water features by choosing the best withdrawal locations. In some cases, the specific location at which water is withdrawn from a source, whether surface water or groundwater, may be more or less detrimental to the ecosystems that depend on the water. Development plans should choose least harmful locations of water withdrawals, including groundwater withdrawals. In cases where new use will replace existing uses, the location of withdrawals should be moved if impacts can be reduced by such a relocation.

## Long Term Project Operations

**Conduct Appropriate Monitoring and Modeling** – Long-term operation of the solar site should include appropriate monitoring of the water conditions, guided by updated modeling. Monitoring should include local and regional groundwater levels and related surface water flows. An approved development plan should include sponsoring or participating in a comprehensive basin monitoring plan that is periodically updated with new information.

**Identify Triggers and Develop Contingency Plans** – Permits should require clearly articulated triggers that indicate when groundwater pumping is likely to cause an unacceptable drop in water levels or adverse water quality changes, and identify contingency plans and predictable and enforceable mitigation steps if those triggers are reached.

**Compensate for Groundwater Impacts** – Compensatory actions for groundwater impacts may be required to offset impacts at any point during the life of the project. Acquisition of ecologically valuable land with associated water rights is an available and preferred mode of compensation.



# **INDIVIDUALS**

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## Comment Letters

12-5-13

"GO FOR IT, BUILD THE PROJECT.

A REPORTER WENT TO CHINA  
TO TALK TO A YOUNG BILLIONAIRE  
BILLIONAIRE DEVELOPER, ABOUT A  
30 YEAR OLD YOUNG MAN.

HE ASKED HIM WHAT DO  
YOU CREDIT TO YOUR SUCCESS.

I LOVED HIS ANSWER, HE  
SAID, WHEN WE DECIDE TO DO  
A PROJECT WE JUST DO IT.

IN YOUR COUNTRY YOU TALK  
IT TO DEATH. "AMEN"

RALPH GUIDERO  
FOR DON CORLEONE, DARTH VADAR  
AND THE ILLUMINATI,

GOOD LUCK

CALIF. DESERT DISTRICT  
MORENO VALLEY, CA

2013 DEC 9 PM 4: 26

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MAIL ROOM

WASHINGTON

## Obama tells feds to boost green energy

President Barack Obama is ordering the federal government to nearly triple to 20 percent its use of renewable sources for electricity by 2020.

Obama says the plan will help reduce pollution that causes global warming, promote American energy independence and boost domestic energy sources that provide thousands of jobs.



DAVID DANIELSKI/STAFF

Soda Lake in the Mojave National Preserve reflects the sky. A commercial solar project is proposed within a mile of the lake bed, prompting worries about water depletion and the fate of an endangered fish, among other concerns.

# Comments sought on project

**The planned solar development next to Mojave National Preserve has drawn criticism**

BY DAVID DANIELSKI  
STAFF WRITER  
ddanelski@pe.com

Federal officials are taking public comments on a draft environmental study that evaluates plans for a commercial-scale photovoltaic solar development on public land near Mojave National Preserve.

The Bureau of Land Management is handling the energy project application. The comment period closes Feb. 26.

The Soda Mountain Solar Project is proposed by Bechtel, the nation's largest construction and engineering firm. According to the company, the operation at peak production would generate 358 megawatts, enough electricity to power 116,300 homes.

The development has drawn opposition from the National Park Service and environmental groups because its footprint would be within a mile of the national preserve, a 1.6 million-acre park established in 1994 to protect the landscapes, wildlife and history of the eastern Mojave Desert. Among the

concerns: loss of quality wildlife habitat, negative effects on bighorn sheep that range in the surrounding mountains, and potential harm to water sources needed by a nearly extinct fish.

Bechtel officials have said the site has plentiful sunshine, nearby power lines and fewer environmental issues than other locations. Some of the project area already has been disturbed by a freeway, mines and pipelines, they have said.

The development would create 200 jobs during construction, which could start next summer if Bechtel obtains the necessary approv-

als.

Public meetings are planned in Barstow but are not yet scheduled.

The draft environmental study and other documents are available on the BLM website: [www.blm.gov/ca/st/en/to/barstow.html](http://www.blm.gov/ca/st/en/to/barstow.html).

Written comments may be sent to Jeff Childers, Soda Mountain Solar Project Manager, 22835 Calle San Juan De Los Lagos, Moreno Valley, CA 92553, or to [sodamtsolar@blm.gov](mailto:sodamtsolar@blm.gov).

Childers can be reached at 951-697-5308.

Follow David Danielski on Facebook at [www.facebook.com/DanelskiReports](http://www.facebook.com/DanelskiReports) and Twitter @DavidDanielski



To whom it may concern:

When people ask me to tell them something unusual about myself the first thing that comes to mind is out of the 28 years of my life I have only spent 3 of them at home for thanksgiving. My family tradition has always led us to Razor Road for Thanksgiving week. My uncle started this tradition with his wife and convinced my father to see what it was all about long before any of us kids were around. It was a secluded place to blow off steam and let my dad and uncle compete for whose sand rail was faster and louder and to venture out in to the open desert without having to worry about the constant troubles in life. The tradition grew throughout my father's side of the family and we ended up with 7 trailers, campers, and RVs in our camp. As kids started coming into the picture so did all the toys. There were more motorcycles, quads, and sand rails in our family than actual people. Every year all of us looked forward to spending the week out at Razor Road with our entire family. It didn't take long to realize that once a year was not enough for The Larr Family. We started going out for New Year's, Easter, and any other holiday our parents could get a way for work. I always thought the main reason we would go camping was to make all the kids happy, let us ride our quads, and spend time with our family but as I've grown up I've realized it was so much more than that. Razor Road is an escape from reality for my parents and family. It is a severance from the real world and all of its stress and anxiety that came with it. As the kids started to grow up and exercised their need for separation from their family, Razor Road was the one place that would bring us back together. It became a ritual in our family that once a family member started dating someone and wanted to take the next step in that relationship they would bring them to Razor Road for Thanksgiving. If they survived and enjoyed it, we knew they were a keeper. It wasn't long until the "kids" grew up and started buying out own trailers and toys and grew the camp with significant others and friends. Somehow our family was a "bad influence" on friends because once they have been to Razor Road with the Larr Family the next thanksgiving they would end up joining us with their own set of toys and trailers. We would show them the fun, relaxing, and unforgettable experience that is Razor Road and our friends could not resist it. Not only have our friends become Razor Road addicts but the past 3 years my brother has had the opportunity to carry on the family tradition with his two kids. Having three

generations of Larr's camped at Rasor Road for Thanksgiving was an cherished moment in my parent's and our family's lives. I have been looking forward to that day when I too get to teach my son/daughter how to ride a quad and to show them all the places their grandparents took their mom when I was their age. The majority of my family memories are at Rasor Road. The reality is, it was such a known fact that Rasor Road is my favorite place to spend any free time and vacation that in 2010 my long time boyfriend proposed to me on the top of one of the highest sand dunes us Rasor Road veterans call "The Top of the World". My entire family and friends were there to share in the excitement and celebration.

You can probably hear the passion I have for this place and I can guarantee I am not the only one that shares this deep passion for Rasor Road. Many families, like mine, have significant memories that were made at Rasor Road and all of us will fight to save it to continue making those memories. You can argue there are many other places for all of us to camp and vacation but I can tell you none of those places can even compare to Rasor Road. Rasor Road is not just a place on the map or an empty desert to build god knows what on. It is past, present, and future memories for my family and so many others. So please, discontinue the plans of Solar Soda Mountain at Rasor Road so my family and many others can continue to enjoy the beauty and uniqueness of Rasor Road in peace with their loved ones. Thank you for your time and consideration.

Courtney Larr



Jan 4, 2014

Bureau of Land Management  
Rasor Road proposed solar project

BBM

My name is Dedra Smith, my family has been going to Rasor Road riding area since 2006. I am writing in response to the proposed solar project for Rasor Road.

We have enjoyed many family get together at Rasor, we enjoy the fact the it is like one big riding family out there. While we are there our children can play and have a great time and we don't have to worry about them getting ran over by riders not paying attention unlike other riding areas. Rasor has become like home for our family, we have had many happy memories out there. Our family takes great pride in the area, we leave it cleaner than it was when we get the each time there. My husband built a drag to help maintain the road so the road is a little easier to take everyone's trailer down, he tries to drag the road each time we are there. Unlike other riding areas Rasor has not turned commercialized, it is a place we can take our families to and spend quality time together.

In closing we just ask that you would remember that Rasor Road is a large riding family home. Please don't jeopardize our access to it.

Concerned citizen

Dedra Smith  
3011 Slater field Ave  
Bakersfield, California. 93313

Garydedra@sbcglobal.net  
661-444-3155

**Keith**

---

To: Keith@BLMVolunteers.com  
Subject: FW: Rasor road solar project

To: Keith  
Subject: Re: Rasor road solar project

To BLM and Soda Mountain Solar Company:

We are writing this letter regarding the proposed solar plant around Rasor road OHV area. We believe that solar power is an excellent idea and that this project that you are proposing will benefit the area and the state. However, with that said our concerns are the costs that deserving patrons of Rasor road OHV will have to pay due to the placement of this project.

We have been camping at Rasor road for 4 1/2 years. We absolutely love the area, we attend the clean ups to do our part to keep the area as clean as we possibly can! And travel 3 1/2-4 hours just to enjoy the Rasor road riding and camping!

Our problems with your proposed project is the "new road". The road that exists is perfectly fine with us! There must be a good solid road for access into and out of the OHV area for campers and emergency personnel. We request that you modify your plans to be able to keep the road that exists the way that it is now for everyone to be happy about this project!

It also has my attention that you will be building on both sides of the 15.. I also respectfully request that we do not loose too much riding area due to this project! Good riding area is very hard to come by anymore and Rasor road as it is right now is our favorite spot!

We hope that you take our concerns to heart and that there is a happy compromise between the OHV patrons and your proposed solar project. Thank you very much for your consideration on this matter!

Sincerely,

Eric & Kelli Reed

## Keith

---

**From:** Jon Hall <bgjnhall@yahoo.com>  
**Sent:** Saturday, January 04, 2014 9:23 AM  
**To:** Keith@BLMVolunteers.com  
**Subject:** Rasor Road

To whom it may concern -

My name is Jon Hall and my wife is Valerie Hall. While I have been an OHV rider for many years, my wife and I have only been introduced to Rasor Road since 2011. We have fallen in love with it. We travel over 300 miles to enjoy Rasor Road. While we understand how important renewable energy is to the U.S. We feel that there are other areas this can be placed. There are few areas that are open to OHV usage. Rasor Road is vital to the OHV community. As a part of the BLM Rasor Road clean up group, we have witnessed two things. First, is how many people love Rasor Road. The amount of people that give up a well deserved day off to spend keeping Rasor Road clean is amazing. Second, is just how clean this area stays. We traveled over ten miles cleaning up the area and very little trash came from the main camping area. This shows how much the OHV community cares about the areas that we have. Most of the trash cleanup was needed along the highway. This is not from the OHV riders but from the uncaring public. As a community we are asking to move this solar farm to a non-riding area. Please don't take away our riding area that we love.

Sincerely  
Jonathan L. Hall  
Email: bgjnhall@yahoo.com

Sent from my iPhone

## Keith

---

**From:** Robin Kelley <rkelly1@caesarspalace.com>  
**Sent:** Monday, January 06, 2014 11:21 AM  
**To:** Keith@BLMVolunteers.com  
**Cc:** lvililrishman@gmail.com  
**Subject:** "Leaving Razor Road alone "

My Family & Friends have been going to Razor Road for a long time, It is one of the best places to go Camping,Riding,or Hiking close to Vegas, Please leave as it is !!!

Thank You ,

**Robin Kelley**

Parts Room

***Caesars Palace***

3570 Las Vegas Blvd. South

Las Vegas, NV 89109

**Direct:** 702-731-7023) **Fax:** (702-731-7157)

**Email:** [rkelly1@caesars.com](mailto:rkelly1@caesars.com)

## Keith

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**From:** Keith <Keith@BLMVolunteers.com>  
**Sent:** Tuesday, January 07, 2014 12:15 PM  
**To:** Keith@BLMVolunteers.com  
**Subject:** Regarding the Soda Mtn Solar Project

Soda Mountain Solar Project:  
01-07-2014

Hello, My name is Keith Daigneault and here are my thoughts about the proposed solar project at Rasor Road. I am very much involved with this BLM OHV area and hold yearly cleanups out there along with owning a 40 acres private property lot in the middle of the OHV area along with being a BLM Volunteer that does regular patrolling of this area. I work out of the Barstow field office under Katrina Symons. I am also a General Building Contractor for over 30 years, I own Orange County Construction.

**ACCESS:** The proposal to realign the road is the worst idea of all. It will get washed out when it rains hard out there and people won't be able to access the area and the people that are back there can't get out. This is the only access to the riding area. When it rains you can't go through the Mojave road due to you will sink your vehicle. Emergency vehicles will not be able to access the area either.

**ROAD MAINTAINNENCE:** What is your plan to maintain the new road? We will need a quick response team and tractor to fix and maintain this road year round. What is the road going to be made of? How wide is this new road going to be? It needs to be wide enough for opposing traffic to go buy and we have some very big motorhomes and trailers that go back there.

**FLOOD CONTROL:** What is your plan for flood control? It does not rain too much out there, but when it does it really floods quickly. I have been in many (about 5 major) floods in the last 30 years out there and have watched about 5-8 feet of water cut through the desert.

**RASOR ROAD:** The road right now, where it is acts not only as a road, but as a wash. This is where the water comes down from the hills on the north and south and meets and washes down towards the Soda Lake. This is why the road is where it is. It was not man made, it was made by nature and is compacted down by the travel of all the OHV vehicles that go to and from. This road moves yearly... sometime by a few feet and sometimes over 100 yards and more. If you build too close to it, you will have some major problems when it gets washed away.

**BALANCE:** What can you do for us being that we are willing to work with you? This solar installation is a huge eye-sore and not really wanted by the OHV'rs at all. Can you do something for them to help balance this out? I am sure they would like to have a water hose bib accessible 24 hours a day maybe at the end of the fence line. You could put it on a timer or something. Even if it's non-potable water. We would also like to request a

septic tank to dump in. This is not a very big request and can easily be done compared to the scope of work that is going to take place.

**DUST & DIRT:** I would like to have it put in writing that the OHV'rs will never be blamed on the dust accumulation on the solar panels due to you making us travel right through the solar field. I don't want legal battles or closer of the area or access due to this in the future. The dust that will collect on the panels will be from the winds out there that blow in all directions. At least several times each month the winds blow out there and the dust gets so thick that you can't see a mile. I have seen many white-outs out there every year. Sometimes the winds blows real hard out of the south in the morning and out of the north in the afternoon. The wind changes the shape of the sand dunes, fills trenches out there and cover ATV tracks all the time.

**CONSTRUCTION:** I understand that we could be looking at about 3 full years or more for the duration of the construction out there. I would like to know "for sure" that there would never be any reason that would block access for us to the OHV area and if this might occur or does occur we need to have a plan "B" for this. If the existing Razor Road is not realigned and stays where it is, will this also be used for the many construction vehicles that will be coming and going every day? Will there be a backup on this road or stuck work vehicles? As I mentioned this road is nothing more than a slightly compacted "sand wash" and can be very unstable at times in many areas. We absolutely cannot be blocked from coming and/or going to our OHV area.

**TRAFFIC:** Razor Road as it is right now may not be wide enough for opposing traffic of large motorhomes and large construction dump trucks, water trucks and tractor/trailers. The road has berms on both sides and will tilt oncoming vehicle towards each other and the tops of the truck and motorhomes can collide. What is the proposal for the amount of traffic that we will have?

**HISTORICAL ARTIFACTS:** What is your plan for the artifacts that are in the area of your construction? Each year that we hold a cleanup out there we instruct our volunteers to not pick up all the old tin cans as BLM has deemed them to be more than 50 years old and they mark a historical event and place. What is going to happen to these?

**RASOR ROAD KIOSK:** I have been told that your solar plant is going to extend out of the limited use area and into the OHV area, thus taking riding land away from us and I was also told that you were going to relocate our kiosk sign. Do you have a map and plan for this yet? How many acres are we losing in the OHV riding area and can we get those acres back by opening up the limited use area to the south of Basin road? If you are going to relocate the kiosk, I would like to ask for a little bit bigger concrete pad in front of it along with a concrete picnic table. Reason being is that this also serves for a cell signal stopping area as we have no cell signal out back. Many people come to the kiosk for shade and to get a signal. You could reach out and make some friends of the OHV'rs by giving back a little bit.

**MAPS & PUBLIC INFO:** Can we expect to have an accurate map of the construction and array area along with a critical path for the build and construction of the facility for the public? It would help the public and OHV'rs better understand what to expect and



when to expect it. I would like to request that you supply us with a smaller kiosk at the entrance of the road and keep fresh maps and info updated at the kiosk for the duration of the construction. I am able to reach the majority of the OHV'rs with my contacts, but I can't reach them all and this might save from confusion, frustration and vandalism. I will help in any way that I can.

**EXCAVATION & RELOCATION:** What is the plan for the thousands of yards of earth that you are excavating? Where is all this sand going? I have a suggestion that might work for some or all of it. What about building a large continuous berm the entire length of the project from the northern hills to the southern hills to block and hide the solar facility from the OHV'rs and campers leaving an opening about 100 yards wide in case the road should move on us? Of course it would need to be compacted. It would be nice to keep the natural and resident earth in the same location. This would also block the view of any light sources that may be visible to the campers that don't want to see a city in the middle of their OHV area that we love so much. Any thoughts?

**TOXIC WASTE:** What is the plan for construction waste, concrete run off and what is the chemicals that you will be spraying or applying to the earth to stop any future growth of vegetation? Are the OHV'rs at risk of this? Will this spray be airborne during application time? What do we need to know about this subject?

**SHOOTING THE SOLAR PANELS:** I was asked by Laurie Hietter in the Panorama Env office a question during our two hour conversation a few months back. She asked me "Do you think the people out there will shoot our panels?" I answered her with "Do your panels get shot up at other locations?" She responded to me "Yes". I would hope that this would never happen with the great family community of OHV'rs that we have at Razor Road. In fact, the new kiosk signs that we have out there, I helped to install them and everyone out there knows this and they have been up for two years now and I have not seen one bullet hole in them yet. The overall majority of people that frequent this area are desert loving and responsible. In fact, you can visit the main staging area and all the camp sites are clean and almost no trash anywhere. Of course we have some cowboy weekend warriors that show up from time to time and I make sure to do several camp contacts with these people to try and get them on the right path. My feeling and your best bet is to give back a little and try to make friends with these great people in this special area. We are not asking for much, nor do you need to give anything...

**WIN/WIN:** I would like to see this project be a win/win for all parties. I am a general building contractor and very much believe in renewable energy and I am not standing in the way of progress. But having said that, I am also a huge participant in the OHV community and I am not standing for congress, Feinstein or anyone else that wants to take more public land away from us. Congress has corralled the OHV riders into small chunks of land, then watch us ride all over the place and then they say "Look at what they are doing to the land". We can't afford to lose any more land that is designated to "full use".

**IN CLOSING:** I can't speak for everyone, but I know most of them. I have a huge influence in the OHV community at Razor Road. I want to ask you if there is anything that I can do to help both sides get along, understand and respect each other and I

would like nothing more than to see this project and the OHV community shake hands at the end of the day.

## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Tuesday, January 07, 2014 4:03 PM  
**To:** Alexandra Kostalas; Michael Manka; Janna Scott; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Writing to oppose proposed Soda Mountain solar Project

FYI.

Jeffery K. Childers =  
Project Manager =  
RECO California Desert District Office =  
22835 Calle San Juan de Los Lagos =  
Moreno Valley, CA 92553 =  
Cell: 951-807-6737 =

=  
=  
=  
=

----- Forwarded message ----- =

From: **Richard Fee** <[rnfee@yahoo.com](mailto:rnfee@yahoo.com)> =  
Date: Tue, Jan 7, 2014 at 3:54 PM =  
Subject: Writing to oppose proposed Soda Mountain solar Project =  
To: [jchilders@blm.gov](mailto:jchilders@blm.gov) =  
=

Dear Mr. Childers, =

=

I am writing to express opposition to the the proposed Soda Mountain Solar Project. =

=

The proposal calls for an inappropriately sited project and threatens the Mojave National Preserve, hard=pressed and stressed =  
bighorn sheep migration corridors, desert tortoise habitat, the endangered tui chub pup fish, and scenic view-sheds. =

=

There is beauty in the desert, and this area in particular. =

=

I urge rejection of this proposal. =

=

Thank you, =

=

Richard Fee =  
7811 S Kachina Drive =  
Tempe, AZ 85284 =  
=  
=

RECEIVED  
BUREAU OF LAND MGMT.  
MAIL ROOM

2014 JAN 13 PM 3: 57

CALIF. DESERT DISTRICT  
MORENO VALLEY, CA



MUSEUMVICTORIA

Jeffery Childers,  
Soda Mountain Solar Project Manager,  
22835 Calle San Juan De Los Lagos,  
Moreno Valley, CA 92553

MUSEUMVICTORIA MELBOURNE MUSEUM  
SCIENCEWORKS IMMIGRATION MUSEUM  
ROYAL EXHIBITION BUILDING

Cc: Edythe Seehafer, James Shearer, Mickey Quillman

7 January 2014

Re: Established access to Soda Mountains for scientific research.

Dear Mr. Childers,

In regard to the proposed Soda Mountains Solar Project, I would urge you to please maintain existing established access to all mines and mineral localities located in the Soda Mountains north and south of Interstate Highway 15.

The Soda Mountains contain a very unique mineralogical occurrence for BLM lands west of the Rocky Mountains. The Blue Bell Mine is a unique mineral locality which is not only of significance in California, but also has worldwide significance. Over the past few years I have along with other mineralogists in California, discovered five mineral species that are the world's first records: plumbophyllite, fluorophosphohedyphane, reynoldsite, bluebellite, and zzyzxite. The latter two minerals immortalising the mine and the Zzyzx area, respectively. Additional new mineral species that contribute to worldwide mineralogical knowledge occur at this mine and in adjacent mineral deposits. The Blue Bell mine as well as the nearby Aga mine on Otto Mountain are currently part of a large research project funded in Australia, which is researching the origin of the tellurium minerals and looking at their environmental impact.

Thank you for maintaining access to important geologic research areas within the Mojave Desert.

Sincerely,

Stuart Mills

Senior Curator  
Geosciences  
Museum Victoria  
GPO Box 666,  
Melbourne 3001  
Australia

GPO Box 666 Melbourne VIC 3001 Australia  
Telephone +61 3 8341 7777  
Museum Victoria ABN 63 640 679 155  
museumvictoria.com.au





January 8, 2014

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Dear Mr. Childers,

I am writing to comment on the proposed Soda Mountains Solar Project, particularly with respect to the impact it may have on future vehicular access to the Soda Mountains.

It appears from the map of the project on the BLM website that public road access to the Soda Mountains will not be impacted; however, appearances can be deceptive. For that reason, I want to lend my voice to those of others who are urging you to take whatever steps are necessary to maintain continued public access to the area. I especially want to encourage you to avoid impact to Zzyzx Road where it skirts the northern edge of the project.

The Soda Mountains area is of great scientific interest specifically with respect to ore deposits that have yielded mineral species of significant scientific. Along with several collaborators, I have published the descriptions of three new mineral species from the Blue Bell claims in the Soda Mountains: plumbophyllite, fluorophosphohedyphane and reynoldsite, and we have two more that we expect will be approved shortly. From the deposit at Otto Mountain just north of Baker (which is apparently not impacted by this project), we have thus far described 12 other new minerals. We have continuing research interest in the minerals from these and other deposits in the Soda Mountains area.

I would also like to point out the importance of maintaining continued access to the area for mineral collectors. Mineralogical researchers rely heavily on mineral collectors who bring interesting discoveries to their attention. In fact, all of the mineral species that we have studied from the area were first brought to our attention by mineral collectors.

Sincerely,

A handwritten signature in blue ink that reads "ARKampf". The signature is stylized with a large "A" and "K" and a long horizontal stroke at the end.

Anthony R. Kampf  
Curator Emeritus, Mineral Sciences

Cc: Edythe Seehafer, James Shearer, Mickey Quillman

**Keith**

---

**From:** Beale Dabbs <bealeestate@gmail.com>  
**Sent:** Wednesday, January 8, 2014 8:42 AM  
**To:** Keith@BLMVolunteers.com  
**Subject:** Letter in opposition to the Soda Mountain Solar Project

Hello,

I am writing you regarding the Soda Mountain Solar Project. While I am a huge proponent of solar energy, I cannot support the Soda Mountain Solar Project as I feel this is a gross underestimation of the sea change that is about to occur in solar power generation and yet another folly in the desert destined to fail at our taxpayer's expense. The proper place for this sort of site is at the point of use. It should be on the rooftops of parking garages, malls, schools, public buildings, etc, not miles and miles away from the final point of use, transmitted over unnecessary power lines that require maintenance and repair and do not transmit the full amount of power generated due to line loss. The jobs it will create are only temporary during the actual construction. After that, it should require only a handful of low paying maintenance jobs to keep it up and running. A gas station supports the same amount of jobs without the desecration of public land.

This project makes no sense, unless of course, what you are really approving is not about green energy and is actually a silent corporate subsidy that is in actuality a last ditch effort to hold on to the reins of centralized power generation. It is inevitable that the decentralization of power generation will soon occur as solar panels become a standard household system, no different than indoor plumbing or gas. Why should we spend our taxpayer's money and destroy virgin desert wilderness to build a project that is obsolescent from the very start?

I strongly encourage you to drop this project.

Thank you  
**Beale Dabbs**

**Home owner in Landers, CA**

TNG Real Estate Consultants License #01903384(714) 514-5858 Phone - (714) 449-0285 Fax  
[www.BealeEstate.com](http://www.BealeEstate.com) - [www.Jackio.com](http://www.Jackio.com)



15457 Eto Camino Rd  
Victorville, CA 92394  
January 8, 2014

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

I am a longtime resident of the Mojave Desert and have learned a lot about the precious resources here and in the Mojave National Preserve in particular. I am opposed to the Soda Mountains Solar Project because of the horrible impacts to the Mojave Preserve and the priceless areas around it. This is a horrible location for such a project. It will greatly impact the view shed, the big horn sheep and their migration corridors, the desert tortoise, the water in the area and the wilderness value of the Soda Mountains.

Tourists visit the desert for the beautiful vistas, solitude and quiet and wildlife. Visitors will not want to come to visit solar projects.

This project is not necessary. Industrial size projects should be close to where the power is needed and roof top solar should be the priority.

(over)

Please consider the damage this project  
will inflict on the precious Mojave Desert  
and look to a better solution.

Sincerely,

Carol A. Wiley



January 9, 2014

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

Dear Congressman Paul Cook, Bureau of Land Management Staff, California Energy Commissioners, & San Bernardino County Supervisors,

I have lived in Joshua Tree since 1988, where I have worked in a number of public service positions, including jobs at the Town of Yucca Valley, the Morongo Unified School District, and Joshua Tree National Park. I have seen my Mojave Desert community grow and change in the past 26 years, and I care deeply about how that growth affects the desert ecosystem. The Mojave Desert has been a place of healing and transformation for me and those close to me, and I would like to see it remain a healthy and healing place for others who seek its tranquility and solace.

I have explored and traveled through the Mojave National Preserve many times, and appreciate its stark beauty. I am opposed to the Soda Mountains Solar Project because of its adverse impacts on the Preserve, the Soda Mountains Wilderness Study Area, the viewsheds, water resources, bighorn sheep populations, tortoise habitat, and tuichub fish populations.



The Soda Mountains Solar Project might be one of the most renewable energy projects sited next to a unit of the National Park Service. It should not be constructed in a high-resource conflict area adjacent to the Mojave National Preserve, the third-largest national park unit in the lower forty-eight states.

As a national park ranger, I understand the economic importance parks have on the surrounding communities, as well as the preservation and conservation roles of our "greatest idea." The Soda Mountains Solar Project jeopardizes National Park Service management goals and objectives at the Mojave National Preserve. I believe there is an economic, as well as, an environmental, imperative to protect the Preserve's scenic vistas, visitor experience, wildlife habitat, and hydrologic resources.

As a mother and environmental educator, I feel very strongly that we have a moral and ethical duty to preserve our natural and cultural resources for future generations. Constructing a solar project in the Soda Mountains would have a significantly negative impact on the Mojave Desert, and, as a consequence, I oppose this project.

Sincerely,  
Caryn Davidson

Caryn Davidson  
61159 El Coyote Ln.  
Joshua Tree, CA 92252  
il.brevifolia62@gmail.com



**robert e. reynolds**

220 south buena vista street — redlands ca 92374 — rreynolds220@verizon.net

RECEIVED  
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MAIL ROOM

2014 JAN -9 PM 4:03

CALIF. DESERT DISTRICT  
MORENO VALLEY, CA

Mr. Jeffery Childers,  
Soda Mountain Solar Project Manager,  
22835 Calle San Juan De Los Lagos,  
Moreno Valley, CA 92553

Cc: Edythe Seehafer, James Shearer, Mickey Quillman

January 9, 2014

Re: Established access to Soda Mountains for scientific research.

Dear Mr. Childers,

In regard to the proposed Soda Mountains Solar Project, please maintain existing established access to all mines and mineral localities located in the Soda Mountains north and south of Interstate Highway 15.

The Soda Mountains contain a very unique mineralogical occurrence for BLM lands west of the Rocky Mountains. The Blue Bell Mine contains Ag-Cu-Pb-Zn-Au-Bi-V-Mo oxides minerals, many of which are very rare throughout the world. This deposit contains more than 85 mineral species that show a paragenetic sequence of deposition that documents the evolutionary development of this type of mineral deposit.

International scientific research at this mine, funded abroad, has produced at least five mineral species that are the world's first records: Plumbophyllite, Fluorophosphohedyphane, Reynoldsite, Bluebellite, and Zzyzxite. The latter two put the central Mojave Desert "on the map" for the mineralogical community of the world. Additional new mineral species that contribute geologic knowledge may occur at this mine or in adjacent mineral deposits. A list of references is appended.

Thank you for maintaining access to important geologic research areas within the Mojave Desert.

Sincerely,



Robert E. Reynolds  
California State University, Desert Studies Center, Board of Directors  
President, SoCal Chapter, Friends of Mineralogy

# robert e. reynolds

220 south buena vista street — redlands ca 92374 — rreynolds220@verizon.net

## References:

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Crowley, Jack A. (1977), Minerals of the Blue Bell mine, San Bernardino County, California. Mineralogical Record: 8: 494-497.

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## **robert e. reynolds**

220 south buena vista street — redlands ca 92374 — rreynolds220@verizon.net

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9 Jan ~~2014~~ 2014

Congressman Paul Cook  
Supervisors Ramon Dominguez - San Bernardino County & other  
Bureau of Land Management Supervisors  
California Energy Commission

To All,

The subject is the proposed Soda Mountains

I am unalterably opposed to this project. It is an  
undriable threat to the integrity of the adjacent Mojave  
National Preserve, & to surrounding wildlife habitat. I  
would destroy habitat necessary to resilience of wild life  
to stresses that will result from the coming global warming.

I am also concerned about hydrologic impact to nearby  
Eggs & water. I'm sure the proponent will argue their  
analysis shows there is no problem, Aside from credibility,  
underground water movement is such an inexact  
science that the consequence of getting it wrong is  
not worth the risk.

Scraping several thousand acres of functioning, intact  
pristine desert is a hugely offensive scorched earth  
policy, showing no sensitivity to organisms other than  
ourselves. It is ~~a~~ morally offensive.

Regards

Tom Brdlong  
Los Angeles

attention:

January 9, 2014

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners,  
San Bernardino County Supervisors

I live in Joshua Tree, and I moved here when I retired because the California desert is beautiful and unique.

One of the areas that I have visited several times is the Soda Mountains. There are rare geologic, hydrologic and wildlife resources in this area. It is not empty desert.

This area is poorly considered for a major solar project because of its distance from urban areas where the power will be used. There is a lack of major transmission capacity from this remote site. The project is also up-gradient of major freshwater springs. The project proponents ~~maintain~~ maintain there is a major bedrock barrier between the project site and the springs but there is no hard data to support their contention.

In addition, the water resource needs of the project exceed the downgradient discharge rate at the springs.

Sincerely,

Tom M Callaway - Calif. Registered  
Geologist



Jan 10<sup>th</sup> 2014

Congressman Paul Cook

BLM

California Energy Commissioners

San Bernardino County Supervisors

Dear Sirs & Madams,

My names is Annie Stockley

I live in San Diego & am frequent visitor to  
the Mojave National Preserve. (MNP)

I am very concerned about the impact of the  
Soda Mountains Solar Project on the MNP.

In particular its impact on the views in the  
area, water quality, big horn sheep migration &  
connectivity & desert tortoise habitats.

This project seems to me to be in the wrong  
place (too close to a National Park boundary), & wrong

time (seems to be outdated & redundant).

Why aren't rooftop projects that are close to use  
& close to transmission being emphasized?

Yours sincerely Annie Stockley.

Daniel El Crock  
61159 El Coyote Ave  
Joshua Tree, CA  
92252

January 10, 2014

Dear Congressman Paul Cook, Bureau of Land Management Staff, California Energy Commissioners and San Bernardino County Supervisors,

I am a Park Ranger working in The Sierra Mtns during The summer, and in Joshua Tree Nat Park in The winter. I am very concerned about the development of Solar energy in The Soda Mountains.

Just as the proposed Project in Owens Valley would be a huge threat to wildlife, scenic vistas, water quality and economic stability, The

Soda Mountain Project would have the same or even more negative impact ~~in the~~ locally.

It is very sad to me that yet another huge swath of beautiful desert land would be dissected untold numbers of animal populations and create nothing to replace them. These desert lands are becoming ~~for the most part~~ smaller and smaller, and more impacted all the time.

I would like to hear about other alternatives to this Solar Project.

Daniel El Crock



January 10, 2014

Dear Congressman Cook, BLM, CA Energy Com,  
SO County Supervisors,

The Soda Mountain Solar project is  
not "Smart from the start." It is an inappropriate  
project that is outdated and makes ~~no~~  
sense in the goal to have a certain amount  
of renewable by 2013.

- 1.) There are more appropriate already disturbed  
sites
- 2.) it completed impacts wild life corridors,  
watersheds and critical tortoise habitat.
- 3.) the unknown water impact makes  
this even more hazardous.
- 4.) It is too close to a National Park -  
one of the 3 largest in the lower  
48.
- 5.) too close to 22,000 - a very important  
and special habitat for Big horn sheep.

This project should be redirected to  
a more appropriate not disturbed location -  
~~the~~ "the desert is not a lifeless void"  
it contains a critical habitat necessary  
for biological balance and to combat climate  
change. Sincerely, Danielle Segura



Eva Soltes  
681 Mount Lassen Ave  
Box 416  
Joshua Tree, CA  
92252

January 10, 2014

To: San Bernardino County  
Board of Supervisors  
Congressman Paul Cook  
California Energy Commission  
Bureau of Land Management,

I am a filmmaker, performing arts producer  
and presenter of a historic landmark  
location in Joshua Tree.

I am opposed to the Soda Mountain Solar  
project for so many reasons including preservation  
of wilderness, migration corridors of  
native animals, scenic vistas, Tourism and  
water resources.

The Mojave Preserve is a world-class  
destination for international visitors and is  
a powerful economic engine for the entire  
area. The Soda Mountain project jeopardizes  
so many important economic & cultural aspects  
of our region it's hard to believe it's even  
being considered. Please STOP it!

Eva Soltes

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernadino County Supervisors

January 10, 2014

Dear Congressman Cook, BLM staff, California Energy Commissioners and San Bernadino County Supervisors:

I am a avid supporter of solar power but I cannot understand why the Soda Mountain Solar Project is seriously being considered. As a resident of Joshua Tree and a frequent visitor to our desert parks, I am aware of the importance of a buffer zone around our parks to provide protection.

The Soda Mts project would be one of the closest renewable energy projects to a national park. We have already seen the problems of the solar plant adjacent to Joshua Tree National Park.

The Soda Mt Solar Plant would adversely impact views, water resources, bighorn sheep migration paths and tortoise habitat. These are all important & precious desert resources which make the area so important. Please consider that once degraded we can't recover this fragile environment.

Sincerely,

Linda Hunter  
872 Border Ave C-1  
Joshua Tree, CA  
92252



58884 Terra Vista Dr.  
Yuca Valley, Ca. 92284  
January 9, 2014

To: Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

I am a 25-year resident of Yuca Valley, & have spent as many years, with my family, camping, hiking & exploring the Mojave Preserve; Zzyzx has provided learning opportunities and the overriding pleasures have always been pure & foremost the unfettered vistas - finding a spring, a tortoise, hearing sheep tracks, listening to owls at night, climbing sand dunes - & doing nothing else.

Hundreds of thousands of others have chosen to visit in a fashion that pays homage to this gem. To consciously consider desecrating 1.6 million acres without a pause to even investigate other sites that are closer to the specific needs of the Solar Project for <sup>the</sup> Soda Mountains; sites that are disturbed already, closer proximity to transmission lines, and sites that will not be creating widespread harm to flora & fauna. Stride me and many others as a bizarre move that doesn't even make any financial sense - as proven by previous decisions to not use this area.

This area is an inheritance that can be squandered & never regained. We realize & accept that Solar Energy is necessary & that the desert is ample for use, but please reconsider the site location.

Conscious destruction of the wilderness of the Mojave Preserve, is tantamount to destruction of a Civilization, in this island of diversity. Why here? It is necessary to deeply & soulfully question this choice and the enormous impacts, known & especially, the unknown, unresearched issues in this habitat.

Sincerely,  
Phyllis Schwartz

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

January 10, 2014

Gentlemen,

I'm a long time resident of our beautiful desert environment. While Yucca Valley is closer to Joshua Trees, my family is a frequent visitor to the Mojave Preserve. My wife & I have taken courses in Egypt and love the area.

As much as we approve of solar energy the placement of this project (Soda Mountains) is all wrong. It is too close to the Preserve, too impactful on the vistas as well as a real threat to the environment. The amount of water pumped from the aquifers will affect the springs that sustain the bighorn sheep and other desert animal life.

Sincerely,

Richard Schwarz

January 10, 2014

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

Dear Congressman Cook Bureau of Land  
Management Staff, CEC Commissioners and  
San Bernardino County Supervisors

I am writing on behalf of the members  
and Board of Directors of the Desert Protective <sup>Coordinator</sup>  
Council (DPC) I am the conservation and projects for  
the DPC. I and members of the DPC  
have camped, hiked, photographed and bird-watched  
and studied botany in the Mojave Preserve.

We treasure the vast open spaces + wildness  
of this spectacular Natural Treasure.

We oppose the construction of the Soda  
Mountains Solar Project within 2 miles of  
the boundary of the Mojave National  
Preserve. Constructing a large-scale solar  
project in the vicinity of the Preserve  
would irreparably harm the resources  
of the Preserve and have severe deleterious  
impacts on the resources of this  
unspoiled piece of Mojave desert ecosystem.

The Soda Mountains Solar Project would interfere with 2 wildlife corridors for bighorn sheep: from north Soda Mts to South Soda Mts and from the Cady Mountains to the Soda mountains.

There are many unknowns regarding the aquifer. With other impacts to Mojave Desert aquifers, springs and seeps it is unconscionable to build a remote industrial-scale project with so little facts about the impacts to the local aquifer.

I will be commenting on behalf of the DPC in more depth during the DEIS process.

Thank you very much for your attention & concern.

Sincerely,  
Terry Werner  
Desert Protective Council  
PO Box 3635  
San Diego, CA 92163



Public Comment Card  
Soda Mountain Solar Project



Commentor

Name:

DEBORAH BOLLINGER

Date:

1/11/14

Address:

65756 BASELINE, JOSHUA TREE CA 92252

Comment:

I AM OPPOSED - SEE ATTACHED

dbollin@aol.com

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:

☐ Compact Disk (CD) ☐ Hardcopy ☐ Do not send me a copy

January 11, 2014

Bureau of Land Management

Congressman Paul Cook

California Energy Commissioners

San Bernardino County Supervisors

Dear Congressman Cook, BLM Staff, California Energy Commissioners and San Bernardino County Supervisors:

I am a 15-year resident of Joshua Tree where I operate a consulting business. I am also a regular visitor to the Mojave National Preserve and the surrounding wilderness areas. These are areas that I and many thousands of other visitors treasure and I am very concerned about the impact of the Soda Mountains Solar Project on these lands, the water supply, and the wildlife they support.

I oppose the project based on its many adverse impacts, including:

- 1) Scenic vistas – there are fewer and fewer high desert areas that we can travel without a vista dominated by industrial-scale renewable energy projects.
- 2) Desert tortoise – there is a declining amount of habitat that is as suitable for tortoise as this site, especially considering the likely impacts of global warming. The fate of the species may depend on preserving areas like this for habitat.
- 3) Groundwater – desert solar projects use significant amounts of water in a land that has very little. In this case MC Springs and its federally protected Tui chub population are threatened.
- 4) Economic base – the Mojave National Preserve, like Joshua Tree National Park, supports rural communities with much needed tourism dollars. Negative impacts on park visitorship will result in a significant economic hit to local communities.

I believe that there are much better alternatives which should first be explored before considering this inappropriate site.

Sincerely,



Deborah Bollinger

# Public Comment Card

Soda Mountain Solar Project



Commentor

Name:

LARAIN TURK

Date:

1/11/14

Address:

PO Box 305 Joshua Tree 92252

Comment:

See attached printed document.

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:

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## Soda Mountain Solar Project

### Comments to the BLM

The Soda Mountain Solar Project is a misplaced solar project. Yes, we need renewable energy, but the focus of the state and the nation should be on rooftop and distributed solar and not on these large projects. A few large projects, appropriately sited, can certainly be beneficial. But this one is especially misplaced, as it detracts from the rare experience for desert visitors for unadulterated desert vistas that they make a long trip to see. This project would specifically detract from views in the Mojave National Preserve right next to it, and also reduce the chance that visitors will be able to see desert wildlife because it cuts off their mobility corridors. And it is these visitors to our desert lands that keep our local economies from falling apart. This holds true in the Mojave Preserve area just as much as in the Morongo Basin.

Also, the related water use greatly concerns me. In the larger sense, we are so aware of California's dire condition when it comes to water, and in this case there is the added likelihood of additional injury to wildlife, the tui chub. Use of water in the desert must be carefully considered, and this is not an appropriate way to use precious desert water in this area.

Living in the desert surrounded by distant mountains and having sweeping views of undisturbed land was on my wish list in my career years. I was lucky enough to be able to retire in Joshua Tree and now live that wish. But, ever since my retirement it seems I've had to fight along with hundreds of like-minded community members for retaining those open desert vistas because of projects like this. We spend hours every month going to meetings, doing online research, spreading the word, and writing letters to express to our

families, neighbors, and friends a familiar refrain of trying to press OUR GOVERNMENT to LISTEN TO ITS CITIZENS and DO THE RIGHT THING, which includes denying this project for all the reasons stated above.

Laraine Turk

PO Box 305

Joshua Tree, CA 92252

[Laraine518@earthlink.net](mailto:Laraine518@earthlink.net)



## Alexandra Kostalas

---

**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:23 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar CACA 49584

----- Forwarded message -----

From: **Misty Watson** <[mistywatsonc21@hotmail.com](mailto:mistywatsonc21@hotmail.com)>  
Date: Sat, Jan 11, 2014 at 9:10 AM  
Subject: Soda Mountain Solar CACA 49584  
To: "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

Dear Mrs. Childers, I writing you today asking to keep access to the Soda Mountains open to Rock Hounding. Many clubs in California and Nevada collect in the Soda Mountains and we would like to keep our access open for Rock Hounding for future use. For many years our club Mother Lode Mineral Society has collected rocks for lapidary use in the area. Our CO-OP of Field Trip Chairman s Association has also had field trips to the area. I request that any road closures to the Soda Mountains be kept open for future use and access. If you would like more information about our Association and member clubs please go to <http://www.ourfieldtrips.org>  
Sincerely,

Misty Watson Mother Lode Mineral Society and Secretary for CO-OP Field Trip Association

**Misty Watson Hometown Realtor**  
**Cal Bre # 01209655 Licensed Since 1996**  
**Almond Valley Realty**  
**180 Leveland Ln. Ste. 4**  
**Modesto Ca. 95350**  
**Cell 209-214-3547 Direct office line 209-338-2316**  
**Fax 209-529-3946**

"E-mails sent or received shall neither constitute acceptance of conducting transactions via electronic means nor create a binding contract until and unless a written contract is signed by the parties."



# Public Comment Card

Soda Mountain Solar Project



Commentor

Name: Toni M Callaway Date: Jan 11, 2014

Address: 60555 Onaga Trl., Joshua Tree, CA 92252

Comment:

Alternatives in DEIS do not meet NEPA requirements

- 1.) Large remote solar projects are not economically or environmentally viable. The only reason Bechtel is interested in this site is that an ill conceived earlier proposal has essentially grandfathered the site with respect to current environmental regulations.
- 2.) There is insufficient water resources in the local area to support construction. There is bogus hydrologic modelling supporting the theory that there is an impermeable boundary between the project and down gradient springs which support local wildlife such as big horn sheep and provide habitat for the endangered chub fish.
- 3.) The project will also block access to very rare mineral resources at the Bluebell Mine at which numerous rare minerals have been discovered.

Sincerely, Toni M Callaway

Calif. Registered Professional Geologist

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:

☐ Compact Disk (CD) ☒ Hardcopy ☐ Do not send me a copy

## Alexandra Kostalas

---

**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:23 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar - Failure to provide available documents

----- Forwarded message -----

**From:** Ed LaRue <[ed.larue@verizon.net](mailto:ed.larue@verizon.net)>  
**Date:** Wed, Jan 15, 2014 at 5:39 PM  
**Subject:** Soda Mountain Solar - Failure to provide available documents  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)  
**Cc:** Sid Silliman <[gssilliman@csupomona.edu](mailto:gssilliman@csupomona.edu)>, Seth Shteir <[sshteir@npca.org](mailto:sshteir@npca.org)>, Jeff Aardahl <[jaardahl@defenders.org](mailto:jaardahl@defenders.org)>, Stephanie Dashiell <[SDASHIELL@defenders.org](mailto:SDASHIELL@defenders.org)>, [april@wildlandsconservancy.org](mailto:april@wildlandsconservancy.org), [ianderson@biologicaldiversity.org](mailto:ianderson@biologicaldiversity.org), Becky Jones <[dfgpalm@roadrunner.com](mailto:dfgpalm@roadrunner.com)>, Bruce Palmer <[BPalmer@logansimpson.com](mailto:BPalmer@logansimpson.com)>, Chris Noddings <[Chris.Noddings@cardnotec.com](mailto:Chris.Noddings@cardnotec.com)>, Dan Pearson <[wldlifebio@aol.com](mailto:wldlifebio@aol.com)>, Ed LaRue <[ed.larue@verizon.net](mailto:ed.larue@verizon.net)>, Glenn Stewart <[grstewart@csupomona.edu](mailto:grstewart@csupomona.edu)>, Joe Probst <[probst2552@roadrunner.com](mailto:probst2552@roadrunner.com)>, Ken MacDonald <[kmacdonald@newfields.com](mailto:kmacdonald@newfields.com)>, Kristin Berry <[kehberry@gmail.com](mailto:kehberry@gmail.com)>, Maggie Fusari <[maggiefusari@gmail.com](mailto:maggiefusari@gmail.com)>, Mari Quillman <[mquillman@ecorpconsulting.com](mailto:mquillman@ecorpconsulting.com)>, Michael Tuma <[mtuma@ecorpconsulting.com](mailto:mtuma@ecorpconsulting.com)>, Mike Bailey <[mike.bailey@mediacombb.net](mailto:mike.bailey@mediacombb.net)>, Pete Woodman <[kivabio@aol.com](mailto:kivabio@aol.com)>, Tracy Bailey <[tracy.bailey@mchsi.com](mailto:tracy.bailey@mchsi.com)>

Mr. Childers,

Representing the Desert Tortoise Council, I was one of five members of the public that attended the Soda Mountain Solar Draft EIS public comment meeting in Barstow, CA on 1/9/2014.

Our main concern is that the BLM has not provided the public with all the biological baseline information that is available. During the public meeting, I discovered that Kiva Biological Consulting performed focused desert tortoise surveys throughout the site in 2013, yet none of that survey information is available on the BLM's website providing the Draft EIS and, in particular, the "Biological Resources Technical Report." Since the Draft EIS is dated November 2013, I would assume that tortoise surveys performed on the site earlier in 2013 should have been at least referenced in the draft document. We feel strongly that our ability to fully analyze the impacts of this proposed project on tortoises requires that we have all the information that is available. People not attending the public meeting on 1/9/2014 may not even be aware that not all of the available information has been provided.

I expressed my concern on 1/9/2014 and asked that the BLM webpage be updated to include Kiva's survey results. I see as of today (1/15/2014) that the webpage remains the same.

I was informed following the comment period of the workshop, by one of Bechtel's consultants that she would email me with Kiva's biological report on 1/13/2014. It is now 1/15/2014, and I have still not received the document. I ask that the BLM and/or project proponent please amend the BLM webpage to make this survey report available. I'd also like to ask Bechtel's consultant to provide me with the report as soon as possible, as promised.

Thank you for your time,

Ed LaRue

Desert Tortoise Council, Ecosystems Advisory Committee

\*\*\*\*\*

Edward L. LaRue, Jr., M.S.

Desert Tortoise Council, Ecosystems Advisory Committee

P.O. Box 1568

Ridgecrest, California 93556

[ed.larue@verizon.net](mailto:ed.larue@verizon.net)

Office: (760) 249-4948

Cell: (760) 964-0012

Website: [deserttortoise.org](http://deserttortoise.org)

\*\*\*\*\*

## Alexandra Kostalas

---

**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:23 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Comments on Soda Mountain solar project

----- Forwarded message -----

From: **David Carpenter** <[David.Carpenter@cgu.edu](mailto:David.Carpenter@cgu.edu)>  
Date: Fri, Jan 17, 2014 at 9:48 AM  
Subject: Comments on Soda Mountain solar project  
To: "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

Mr. Childers,

As a frequent visitor to the Mojave National Preserve, a frequent traveler on Interstate 15, and someone who has watched the impact of large scale projects on the Mojave landscape and ecosystem over many years, I have deep concerns about the Soda Mountain Solar Project.

Yes, we need to explore sources of alternative energy, but I don't believe this project is a step forward. Instead, it sets a potentially dangerous standard of intrusion upon the landscape by disrupting the scenic value of this unique area while also destroying important water resources for bighorn sheep and habitat for tortoises and other animals. The desert here is rugged but frail, and this large scale intrusion will be irreversible for generations to come.

Set along the interstate, this project will not only be biologically disruptive, it will stand as an advertisement for further environmental degradation. As a matter of public policy, I believe we should minimize this impulse rather than project it large scale.

Finally, underlying these pragmatic concerns is something less tangible but just as troubling and long term. Each industrial incursion into wilderness areas like this makes it easier for the next wave of development and exploitation. In this sense, drawing energy from the undeveloped areas will inevitably necessitate producing even more energy. This project is not an answer, but rather a further extension of a growing problem. We end up chasing our own tail.

I urge the BLM to reconsider this project.

David Carpenter

265 Blaisdell Drive

Claremont CA 91711

909 621 4126

.....

RECEIVED  
BUREAU OF LAND MGMT.  
MAIL ROOM

2014 JAN 27 PM 1:36

CALIF. DESERT DISTRICT  
MORENO VALLEY, CA

Michael E. Gordon  
725 Rose Avenue  
Long Beach, CA 90813

22 January, 2014

Jeffrey Childers, Project Manager  
BLM California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553

Re: *proposed Soda Mountain Solar Project*

Dear Mr. Childers and *Bureau of Land Management*:

***I request that the proposed Soda Mountain Solar Project be DENIED.*** There are many suitable locations for this project which would not permanently destroy undeveloped California desert lands, including designated *Solar Energy Zones*, brownfields, and rooftops. Siting this project immediately adjacent to the *Mojave National Preserve* is inappropriate and the project must be moved elsewhere.

The commentary letters submitted by individuals, environmental organizations, California government agencies, and entities such as the *National Park Service* during the October to December 2012 scoping period and summarized in the *Scoping Report* delineate a host of likely environmental consequences to public lands and to the *Mojave National Preserve* (the third largest unit of our *National Park* system in the contiguous U.S.), many of which are likely irreversible. The potential for significant environmental impacts include decreased spring discharge in the Soda Springs area (Zzyzx) as a result of groundwater pumping for the project; loss of habitat for the endangered Mohave tui chub pup fish; loss of desert tortoise habitat; increased habitat fragmentation for desert bighorn sheep; and the loss of wildlife connectivity with the northern Soda Mountains.

The consequences for the *Mojave National Preserve* are of special concern because the project threatens not only the particular resources and landscape that Congress mandated to be protected by the *California Desert Protection Act of 1994*, but the very integrity of this treasured unit of the *National Park System*. The integrity of the *Preserve* — its essential quality — rests on the fact that it (a) protects a relatively intact ecosystem of the eastern Mojave Desert from threats associated with commercial development, (b) provides connectivity between other protected national areas within the Mojave desert region, and (c) provides opportunities for solitude, thereby functioning as a refuge from urban areas. It is disingenuous to reject this argument merely because the project would be sited on the doorstep of the *Mojave National Preserve* rather than within its boundaries. The currently undeveloped, natural area at the northwest corner of the *Mojave National Preserve* where the project is proposed is effectively part of the park.

*Mojave National Preserve* vistas would be obscured by project buildings and PV panels attached to single-axis trackers with a minimum height of 20 feet. In order to ensure solitude for visitors and a refuge from urban areas, the *National Park Service* manages the *Preserve* to protect dark skies. A solar facility at the corner of the *Preserve* is incompatible with that management goal because the lighting of solar facility will significantly degrade the visitor experience, and the project will violate the visual integrity of the *Preserve* (and the *NPS Mission Statement*).

.....

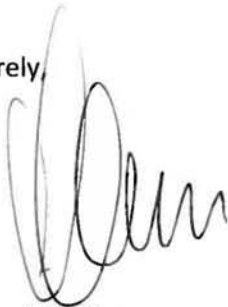


Approximately 550,000 people visit the Preserve annually and their experience will be impacted by Soda Mountain Solar. School children from the gate-way community of Barstow, many of whom have never been to a national park, travel via Zzyzx Road (and through the project if it is built) on National Park Service-organized field trips to the Desert Studies Center to experience the desert up close, to learn of the history and culture of the Chemehuevi, and, and to see the bighorn sheep that frequent the springs in the area. *The Desert Studies Center*, a field station of *California State University*, is listed on the National Register of Historic Places. It provides an opportunity for these children to receive instruction among natural ponds, dry lakes, and rugged mountains. Local citizens who use the Razor Off-Highway Vehicle Area will be impacted by the realignment of Razor Road. The safety of the thousands who travel to and from Las Vegas on Interstate 15 may be at risk from the glare of the estimated 1.5 million PV panels that will comprise the facility.

While this project will benefit Bechtel and other corporate interests, it simply does not serve the public interest or the *Mission Statement* of our *National Park* system. Proposed energy developments should be sited on previously-disturbed lands or through distributed generation at sites near where the electricity is consumed. If National Parks are "*America's best idea*", siting an industrial energy project on a *National Park* doorstep surely qualifies as *America's Worst Idea*.

**I vehemently OPPOSE the proposed Soda Mountain Solar Project and urge that it be DENIED.** Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael Gordon', with a large, stylized initial 'M'.

**Michael Gordon**

michael\_gordon@charter.net

(562) 201-0856

## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Saturday, January 25, 2014 5:21 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountains Solar Project

Jeff Childers

----- Forwarded message -----

From: "Cody Dolnick" <[woland92107@yahoo.com](mailto:woland92107@yahoo.com)>

Date: Jan 25, 2014 2:35 PM

Subject: Soda Mountains Solar Project

To: "[ksymons@blm.gov](mailto:ksymons@blm.gov)" <[ksymons@blm.gov](mailto:ksymons@blm.gov)>, "[traml@blm.gov](mailto:traml@blm.gov)" <[traml@blm.gov](mailto:traml@blm.gov)>, "[jchilders@blm.gov](mailto:jchilders@blm.gov)" <[jchilders@blm.gov](mailto:jchilders@blm.gov)>

Cc:

Dear BLM,

Regarding the Soda Mountains Solar Project, I urge you to enact the following proposals: 1. that the BLM begin recording citizen's oral comments during public meetings; 2. that a supplemental environmental impact study be conducted to assess locating the project in a better, preferably previously-disturbed area; and 3. that 60 additional days of public comment on the project be granted past the current March deadline.

Thank you.

Sincerely,

Cody Dolnick  
PO Box 942  
Joshua Tree, CA  
92252

## Alexandra Kostalas

---

**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Saturday, January 25, 2014 5:20 PM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Janna Scott; Michael Manka  
**Subject:** Fwd: Soda Mountain Solar

These are public comments on the draft and for this AR.

Jeff Childers

----- Forwarded message -----

From: <[moneywhys@aol.com](mailto:moneywhys@aol.com)>  
Date: Jan 25, 2014 11:46 AM  
Subject: Soda Mountain Solar  
To: <[traml@blm.gov](mailto:traml@blm.gov)>, <[ksymons@blm.gov](mailto:ksymons@blm.gov)>, <[jchilders@blm.gov](mailto:jchilders@blm.gov)>  
Cc:

Dear Ms. Raml, Ms. Symons, and Mr. Childers:

I attended the recent meeting held at the Travel Lodge in Yucca Valley to give an update on the Soda Mountain solar project and to provide community residents to comment.

It was very troubling that there is not an official record of the meeting. Most meetings of this type would have a professional stenographer attending to place the dialog into the public record. Lacking that, and the notes taken sporadically hardly constitute accurate summaries and therefore, I would submit that the meeting could not be classified as an official meeting.

The need for a further environmental impact study that focuses on the project relocating to previously disturbed areas seems in order.

Since I question the integrity and completeness of the process to date, I fully support an extension of the public comment period for another 60 days beyond the current March deadline.

Thank you for your consideration.  
Donald J. Krouse

Donald J. Krouse  
PO Box 340  
Morongo Valley, CA 92256  
760-363-3849  
[moneywhys@aol.com](mailto:moneywhys@aol.com)

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15457 Eto Camino Rd.  
Victorville, CA 92394  
February 1, 2014

Jeffery Childers, Project Manager  
BLM California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553

Dear BLM:

I am totally opposed to this site for the Soda Mountain Solar project. This proposed site is on the boarder of the Mojave Nation Preserve, the Zzyzx Study Center and the Soda Mountain Wilderness Study Area. This park unit is without compare, one of the best intact desert ecosystems in the United States. It has 8,000 foot mountains, unique sand dunes, springs, Cima Dome, volcanoes, canyons, Soda Dry Lake, the worlds largest Joshua tree forest, wildlife and plant life, most of which has not even been discovered and studied.

The Mojave Preserve draws many visitors from around the world to enjoy the camping, hiking, touring, astronomy, and botanizing. Many of us come for the beautiful vistas, the quiet and solitude. It is important that this park unit is protected from the impacts of projects like the Soda Mountain Solar project. Not only would the view shed in the park be impacted, but travelers on the freeway would lose the beautiful views on both sides of the road.

It is also necessary to consider the cumulative effects of such projects. A recent map of proposed projects showed the Mojave Preserve surrounded by such projects. The impacts from such projects would be devastating to the Mojave Preserve. The views would be destroyed, the quiet and solitude gone, the water for springs and wildlife gone, and the air quality diminished.

The alternatives were woefully inadequate. The only alternatives offered were somewhat different configurations on the same footprint. No other sites were offered as an alternative. There are other alternatives.

This project would have huge impacts on wildlife. The Soda Mountains are an important to bighorn sheep conservation. Biologists are working on the migration corridors of the bighorn to ensure genetic diversity so that they will survive. This project would be right in that area so would abort such work. There is other wildlife that would suffer from this project such as the desert tortoise, tui chub, golden eagles.

Water is also an important issue. The desert cannot afford to lose water to such a project. While in such a major drought, all the desert water is needed for wildlife and plants. A draw down of water would be disastrous.

This project is not compatible with the Mojave National Preserve, or the Soda Mountain Wilderness Study Area, which is being considered for designation for National Conservation Lands.

We need to stop this rush to site such projects and look at using sites near the areas of use and, of course, promote roof top solar.

Sincerely

  
Carol A. Wiley

Good afternoon,

My name is Carol Wiley and I live in Victorville. I have lived in the Mojave Desert for over 45 years and in that time I have learned much about our beautiful desert. For those that have not spent time in the Mojave Desert I want to point out how spectacular it is with mountains over 7,000 high, large sand dunes, the worlds largest Joshua tree forest, seeps and springs, and beautiful vistas.

I am here today to oppose the Soda Mountains Solar Project for many reasons, both environmental and economic. The major problem with this proposed project is the siting. This is right on the border of the Mojave National Preserve and will ruin the view shed both from the park and from the freeway. This is a bighorn sheep area and will destroy the habitat and the connective of the sheep. Water is also an issue. This is very close to the Zzyzx Study Center (where the Mojave Tui Chub lives) and Soda Dry Lake. Even the Mojave National Preserve opposes this location as hampering their ability to protect the natural resources of the park.

Many visitors come to this park every year to enjoy it's unique beauty, quiet and solitude, spacious vistas, mountains and wildlife. They come for the many recreational activities offered including camping, hiking, backpacking, touring, hunting, botanizing, horseback riding and visiting historic sites. Tourist will not be eager to visit a landscape of solar panels, and a land devoid of plants and wildlife.

Thank you for this opportunity to speak.

Carol Wiley

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:23 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar

----- Forwarded message -----

**From:** Inga <[ingador@gmail.com](mailto:ingador@gmail.com)>  
**Date:** Fri, Feb 7, 2014 at 5:31 PM  
**Subject:** Soda Mountain Solar  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

I am writing to voice my opposition to the solar project. I wish BLM would do more to encourage roof top solar and not put all solar projects in the desert. The CA desert is an extremely fragile environment and there are very few pockets of desert wilderness left. I have travelled and camped in this area and feel that this particular spot needs more protection and less construction. As it stands now, the Afton Canyon, nearby the proposed solar site, is a corridor for animals and an extremely bio diverse area that should have more protection under BLM. It's strange that one could drive through a year round water source in the desert!

Looking at the maps there are clearly desert tortoises and burrowing owls in the proposed site. This solar project would impact them. I have camped nearby and was lucky enough to see the elusive kit fox. The areas nearby are recreation off-roading areas so it would be great to keep this particular land undisturbed since encroachment is all around.

I am also concerned that there will be well and water used, given the drought and that it is the water source and drainage basin of Soda Lake. This area is extremely prone to wind storms. I have camped near the Afton canyon several times, and each time there were massive sand storms. I believe more water will be used than is projected to deal with this.

As far as I understand, the plant study was done in the fall. There are references to not knowing whether certain plants exist because the researchers were not there during flowering season. Why not? Given the drought, should several flowering seasons go by since desert blooms often are poor during droughts?

Thank you and can you please keep me updated on the project?

Inga



RECEIVED  
BUREAU OF LAND MGMT.  
MAIL ROOM

Dear Jeffery Childers,

2/7/2014

2014 JAN -1 PM 4:00

We are writing concerning the Soda Mountains Solar Project in the Mojave Desert. We want to express our opposition to this project. This area is too beautiful. The solar panels and supporting structures would be visible from the Mojave National Preserve and both sides of Interstate 15.

This project needs to be stopped.

There is a more suitable location north of the 15 freeway and west of Field Road. This location has west-facing slopes and would be more suitable for producing energy during peak hours. It is also near the major power line corridor and is on BLM land. This area would be more out of sight of interstate 15 travelers and Visitors to the Mojave National Preserve.

The Field Road location is closer to energy users, making it more energy efficient.

We encourage you to do the right thing and oppose the Soda Mountain Solar Project.

Sincerely,

Susan Stueber and Quintin Lake

*Susan Stueber* *Quintin Lake*

Susan Stueber and Quintin Lake

PMB #237

17100 Bear Valley Rd. Ste. B

Victorville, CA 92395-5852

(951) 315-7691

## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Tuesday, February 11, 2014 5:51 AM  
**To:** Soda Mountain Project EIS-EIR; Janna Scott; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Comments on Soda Mountain Solar Project

Jeff Childers

----- Forwarded message -----

From: "Karl Young" <[karlshak@sonic.net](mailto:karlshak@sonic.net)>  
Date: Feb 10, 2014 6:56 PM  
Subject: Comments on Soda Mountain Solar Project  
To: <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>, <[jchilders@blm.gov](mailto:jchilders@blm.gov)>  
Cc:

Mr. Childers,

These comments concern the 350-megawatt photo-voltaic electric power generating plant proposed on 4,397 acres of BLM land adjacent to the Mojave National Preserve.

It is of great concern to me that the proposed siting for this project directly threatens the Mojave National Preserve in a number of ways in addition to fragmenting bighorn sheep migration corridors, and negatively impacting desert tortoise habitat, endangered tui chub pup fish, and a number of scenic view-sheds.

As a frequent visitor to the Mohave National Preserve, Afton Canyon, and Zzyzx it seems that not only are the interests of local species being largely ignored but those of the many visitors to the area are as well. The potential effects of this project could certainly lead to my family choosing to no longer visit the area in terms of no longer providing the solitude and relief from urban living that has been so important to us.

Regarding the local species it seems a real shame that a single project could lead to such fragmentation and loss of connectivity between other protected national areas within the Mojave desert region.

The irony that a single private entity, Bechtel, the transnational corporation, is the primary beneficiary of this destructive use of public lands is certainly not lost on local residents and the visitors that treasure this area.

It s sad that the BLM seems unable to help mitigate the wholesale destruction of the desert habitats of south eastern California, in terms of this project, the completed Ivanpah Solar Electric Generating System, the proposed Iberdrola Energy Project, and the no doubt countless others to follow.

Thanks for allowing me to comment.

Sincerely,

Karl Young

--

Karl Young  
<http://karlshak.com>

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:24 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar (CACA 49584)

----- Forwarded message -----

From: **joe cernac** <[joecernac@sbcglobal.net](mailto:joecernac@sbcglobal.net)>  
Date: Tue, Feb 11, 2014 at 11:28 PM  
Subject: Soda Mountain Solar (CACA 49584)  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

**Re: Soda Mountain Solar (CACA 49584)**

**11 Feb 2014**

I have reviewed the DEIS for this proposed 4,000+ acre project.  
**I favor alternative G.** No project.

I believe that these facilities are unacceptable for public land. The developer/promoters are getting a free ride by the public subsidizing the cost of land. These types of projects need to be built on rooftops of cities where the energy will be used. Which also means that the power transmission infrastructure need not be built. There are many communities with in the Mojave desert close to the LA basin where roof tops could be leased.

In addition, the visual impact is over bearing/unacceptable. It impacts other recreational use by the reflective intensity of the panels.

The mojave desert region is a remarkably beautiful region. It doesn't need this type of project.

Sincerely,  
Joe Cernac  
1219 Singletary Ave.  
San Jose, CA 95126

Public Comment Card

2014 FEB 24 PM 3:32

Sage Mountain Solar Project



Commentor

Name:

CALIE DESERT DISTRICT  
MORENO VALLEY, CA

Date:

11 Feb 14

Address:

1163 S. 3rd St. Bishop CA 93514

Comment: #1. This, and similar, solar projects should be cited closer to the cities they feed. The destruction of wildland and loss of energy in transmission is negligent. Citing closer to urban areas would use space and resources more wisely, but without the great loss of energy via transmission. Of course this would result in decreased subsidies, which seems to be the dominant motivating factor.

#2 How great are the subsidies for this project and how much does BLM anticipate to profit?

#3 This project is likely not carbon reducing or even carbon neutral. Deserts are often carbon sinks. Breaking soil crusts, moving vegetation, etc. can potentially increase carbon emissions. (See: Lynn Fensky, Carbon Neutral and Holly Cambell, Abby Metzger, Deidra Spencer, Stacey Miller, and Erika Walters, Here Comes the Sun: Solar Thermal in the Mojave Desert - Carbon Reduction or loss of Sequestration)

#4. Culverts are not corridors! Just because large, quick moving megafauna might dash through a culvert on occasion does not mean connectivity is maintained for smaller, slower moving species such as ground birds, lizards, snakes, insects, small mammals, and desert tortoise.

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:

☐ Compact Disk (CD) ☐ Hardcopy ☒ Do not send me a copy



## Alexandra Kostalas

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**From:** Brendan Hughes <hugajoshuatree@gmail.com>  
**Sent:** Wednesday, February 12, 2014 3:02 PM  
**To:** Creason, Tracy - LUS  
**Subject:** Comments on Proposed Soda Mountains Solar Project

To Whom It May Concern:

My name is Brendan Hughes and I would like to comment on the proposed Soda Mountains Solar Project, located adjacent to the Mojave National Preserve. I have many concerns about this project, chiefly biological impacts, water resource impacts, visual and recreational resource impacts, and the lack of examination of alternatives.

The proposed project will have a profoundly negative impact on the biological resources of the California Desert. First, I believe that the 2009 tortoise survey is flawed and should be discarded. Upon reviewing the Biological Report Appendix, it seems that Kiva Consulting found the vast majority of the tortoise sign within the project area, while the URS survey crew found virtually nothing even though they surveyed many times more land than Kiva Consulting. This does not tell me that there are no tortoises or sign where the URS crew surveyed, it tells me that URS biologists didn't know what they were doing. Is this the same company that did the initial surveys for tortoise at Ivanpah? Even if it is not the same company, BLM should discard the URS results and use only Kiva or a similar company with years of experience in the desert, such as Circle Mountain Biological. I have absolutely no faith in URS's ability to competently survey for tortoises. This project should not be able to move forward without an additional spring survey.

Furthermore, this project could doom one of the last refuges of the Mojave Tui chub by impacting water resources. No extensive surveys of the water resources in the area have been completed. Saying that MC Spring is not connected to the project site is unproven. There may be no current evidence of such a connection, but the studies have not been done to prove or disprove this statement. The project proponent should be required to drill test wells, and study the connections or lack thereof before any use of groundwater can occur. This should include the possible drawdown of the regional water table. I have driven from the project site to the Devil's Playground, just south of MC Spring, and the ride was smooth and straightforward. It would be a miracle if the project site and these springs were NOT connected. Also, groundwater drawdown will affect the private landowner at the Razor Road exit, and could even affect the water supply of Baker. These possibilities should be definitively ruled out before any project is approved.

Additionally, BLM should consider the visual and recreational impacts of this project on the Mojave Preserve, Soda Mountains WSA, and the Razor OHV Area. Hundreds of thousands of people visit these recreation areas each year for their scenic and open space values. This proposed project will be a blight on the landscape, visible for miles in many directions, and will ruin the open and wild character of this special place.



Finally, distributed solar and private-land solar options were dismissed from consideration. Rooftop solar is the best and least environmentally damaging option, and should have been considered since this will be a photovoltaic facility. These panels could just as easily go on rooftops in LA and Las Vegas. Also, this site is outside of the BLM Solar Energy Zones. Even though it was grandfathered into the process, the BLM Solar PEIS was a thorough and comprehensive process. Any projects outside of the SEZs should be discouraged by BLM.

BLM and San Bernardino County should reject the proposed project and choose Alternative G, which does not permit the project to move forward and prevents future solar development of the area.

Thank you for your consideration.

Brendan Hughes

60444 Onaga Trl.

Joshua Tree, CA 92252

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, February 12, 2014 12:24 PM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: complaint

----- Forwarded message -----

From: **Lauren Browning** <[browningart@sbcglobal.net](mailto:browningart@sbcglobal.net)>  
Date: Wed, Feb 12, 2014 at 8:13 AM  
Subject: complaint  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

These public comments are just smoke and mirrors. We all know it. But might does not make right. You are making a lot of real people very sad, and soon you will hurt animals too. Congratulations. You are an apologist for your pocketbook.

## Alexandra Kostalas

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**From:** jchildrens@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:01 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Comments for the proposed Soda Mountain Solar Project

----- Forwarded message -----

**From:** Christian Guntert <[chguntert@yahoo.com](mailto:chguntert@yahoo.com)>  
**Date:** Thu, Feb 13, 2014 at 3:30 PM  
**Subject:** Comments for the proposed Soda Mountain Solar Project  
**To:** "sodamtnsolar@blm.gov" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>  
**Cc:** Neil Ringlee <[nrringlee@yahoo.com](mailto:nrringlee@yahoo.com)>, Jeff Crouse <[jjrestorationservice@yahoo.com](mailto:jjrestorationservice@yahoo.com)>, Mark LeCompte <[lecomptefam@msn.com](mailto:lecomptefam@msn.com)>, Bob Burke <[cameracoordinator@sheepsociety.com](mailto:cameracoordinator@sheepsociety.com)>, Glenn Sudmeier <[glenn@sudmeier.org](mailto:glenn@sudmeier.org)>, Terry & ANDERSON <[equinerr@msn.com](mailto:equinerr@msn.com)>, Steve Marschke <[stevemarschke@gmail.com](mailto:stevemarschke@gmail.com)>, George Sutton <[suttongs@msn.com](mailto:suttongs@msn.com)>, Cliff McDonald <[bigmc@ctaz.com](mailto:bigmc@ctaz.com)>, Norm Lopez <[normlopez@aol.com](mailto:normlopez@aol.com)>, Stevan Hart <[hartbyte@ix.netcom.com](mailto:hartbyte@ix.netcom.com)>, Gary Thomas <[g.cranky@verizon.net](mailto:g.cranky@verizon.net)>, John Hybarger <[ltadventure@earthlink.net](mailto:ltadventure@earthlink.net)>, John Roy <[johnnandlindaroy@yahoo.com](mailto:johnnandlindaroy@yahoo.com)>, Shawn Finley <[ShawnF@nosler.com](mailto:ShawnF@nosler.com)>, "Jamesdahl@sbcglobal.net" <[Jamesdahl@sbcglobal.net](mailto:Jamesdahl@sbcglobal.net)>, John Whipple <[jwhipple04@aol.com](mailto:jwhipple04@aol.com)>, Dayan Anderson <[liddlebopeep@hotmail.com](mailto:liddlebopeep@hotmail.com)>, Dennis Anderson <[dennis@andersonseafoods.com](mailto:dennis@andersonseafoods.com)>

Dear Friends at the BLM,

As an avid hiker, outdoorsman, Mojave Desert resident, and volunteer/boardmember for the Society for Conservation of Bighorn Sheep (SCBS), it is my duty to inform you of my strong objection to the Soda Mountain Solar Project as it is currently proposed. SCBS has been stewarding water sources and helping Bighorn Sheep in the Mojave Desert for over 50 years. I object to this project for the following reasons:

1. Bighorn Sheep utilize both sides of this proposed project site (demised by the Interstate 15 corridor). Depending upon seasons, weather conditions, water availability, feed conditions and intrusions into their habitat, Bighorn can have a large range at varying elevations within their habitat. They are often seen on valley floors as well as mountain tops and ridges. From my perspective, not only do I want to see mitigative water source measures taken (the project site will disrupt local springs which have not been addressed and/or identified within the proposed site documentation), but we also want to see mitigative measures to promote and increase genetic diversity for meta-populations affected initially by construction of Interstate 15, and now further disrupted by fencing off of the project site by Soda Mountain Solar/Bechtel.
2. Proposed fencing within the project area will hinder transitions of Bighorn between meta-populations which is currently done through a box culvert/tunnel under the Interstate 15 Freeway. My suggestion is that you go measure the decibel levels in that tunnel on any given Friday night at 6 PM with a noise dosimeter and decide if the sheep would be terrified to use the tunnel or not. The noise generated by the traffic going to Las Vegas is incredibly loud. This project presents fenced corridors which will restrict Bighorn movement, migration and ultimately genetic diversity of the local populations. This is a situation that needs to be improved upon, not made worse which is what the Soda Mountain Solar Project will do - make it worse.
3. Proposed water source mitigative measures for the Bighorn Sheep in and near the project site are inadequate for the long-term health of the Bighorn meta-populations in the area. Siting of water source mitigative measures must include a thorough study of the habitat, birthing areas, and meta-population in that local area. Developing a water source in the Mojave without adequate information and study is akin to the story of the drunk who lost his pocket watch at night. When a passing Police Officer sees the drunk holding onto a streetlight, he stops and asks why the drunk is there. The drunk responds that he dropped his pocket watch and was looking for it. When the Officer begins

to help look but can't see the pocketwatch, he finally asks 'where did you lose it?' to which the drunk responds 'about two blocks that way'. Flustered, the Police Officer asks 'so why aren't you looking over there?' to which the drunk responds "because there is light here."

The point to the story is that it putting water in an easy and convenient location is great if you don't care where the animals are; however, that doesn't make it right or achieve the goal of helping the Bighorn. There is nothing easy or convenient about the Mojave Desert, Bighorn Sheep Habitat, or the proposed location for the project. Bechtel, and/or their consultant, has simply not done their homework or provided adequate mitigation. Because of this, the project should not be permitted to move forward. I am not anti-growth, I am pro-common sense and pro-Bighorn.

Thank you for your time. If you wish to discuss further, I would be happy to be contacted. You can reach me at my email address.

Sincerely,

Christian Guntert

Victorville, CA 92395

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:02 AM  
**To:** Alexandra Kostalas; Soda Mountain Project EIS-EIR; Michael Manka  
**Subject:** Fwd: Soda Mountain Solar Public Comments

----- Forwarded message -----

**From:** Rebecca Lamphear <[rebecl7@vt.edu](mailto:rebecl7@vt.edu)>  
**Date:** Sat, Feb 15, 2014 at 11:11 PM  
**Subject:** Soda Mountain Solar Public Comments  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Dear Sir/Madam

I am in opposition to the proposed solar power plant to be located at Soda Mountain for several reasons, mainly the impact this power plant will have on several species including big born sheep, as well as the impact of water resources for the endangered mohave tui chub. I have included additional concerns I feel have impact on the natural community.

- • The proposed solar power plant violates San Bernadino's new proposed ordinance dis-allowing renewable energy facilities that fall within 2 miles of a park, the ordinance mentions there shall not be a project that distracts from visual resources. Currently the proposed location is 1 mile from Mojave National Preserve.
- • National Park service has raised concerns regarding big horn sheep migratory routes that will be impacted as a result of the project. A biologist from the National Park Service is on record saying that it would be difficult to imagine big horn sheep navigating around and through solar arrays. I would agree with this statement.
- • Thirdly, the fate of the mohave tui chub. It seems as though impacts proposed on the local aquifer are somewhat uncertain. Removing water from a location where the Mohave tui chub is known to exist exclusively seems to be a dangerous proposition for this fish.

- • Lastly it has been mentioned by several prominent preservation organizations such as the Sierra Club and The Mojave National Preserve Conservancy. That the location is inappropriate for the proposed solar project and it is not located in a solar zone as pinpointed by the Solar Programmatic Environmental Impact Statement, established by the Federal Government. These proposed solar zones would be more suitable and less impactful on the landscape.

Thank you for your time and consideration of the above information.

Rebecca Lamphear



## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:02 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain comments

----- Forwarded message -----

From: **Zoe Sumrall** <[zdsumrall@gmail.com](mailto:zdsumrall@gmail.com)>  
Date: Sun, Feb 16, 2014 at 6:50 AM  
Subject: Soda Mountain comments  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

To Whom It May Concern,

That is a lot of public land to devote to a single use, but I am an advocate for solar energy and a former employee of the industry. A few questions come to mind after reading about the project: Are the solar panels proposed for this project made in America? How many jobs will be created for the engineering, installation, and maintenance of this array? Without assuming the photovoltaic modules are non-reflective, the visual impact from Interstate 15 and surrounding roads should be inspected, as to not cause complications with motorists. If the array will be fenced in, what impact will that have on not only the wildlife, but the public who may encounter the displaced wildlife?

Thank you for your time. I look forward to following up with this project!

Zoë Sumrall  
[zdsumrall@gmail.com](mailto:zdsumrall@gmail.com)  
540-305-9475  
Winchester, VA

## Alexandra Kostalas

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**From:** Alexandra Kostalas  
**Sent:** Tuesday, February 18, 2014 8:48 AM  
**To:** Alexandra Kostalas  
**Subject:** FW: Comments: Soda Mountain Solar project (CACA #049584)

**From:** Childers, Jeffery [<mailto:jchilders@blm.gov>]  
**Sent:** Monday, February 17, 2014 9:08 AM

----- Forwarded message -----

From: **HOLMES, KEVIN E** <[kevin.e.holmes@cbp.dhs.gov](mailto:kevin.e.holmes@cbp.dhs.gov)>  
Date: Fri, Feb 14, 2014 at 12:03 PM  
Subject: Comments: Soda Mountain Solar project (CACA #049584)  
To: "[jchilders@blm.gov](mailto:jchilders@blm.gov)" <[jchilders@blm.gov](mailto:jchilders@blm.gov)>, "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>  
Cc: "[kev@vt.edu](mailto:kev@vt.edu)" <[kev@vt.edu](mailto:kev@vt.edu)>

Good afternoon:

It was my pleasure to read the draft Environmental Impact Statement (EIS) for the Soda Mountain Solar project (CACA #049584). This is a very exciting project which enhances alternative, renewable energy technology. As such it is with great interest to read about the potential impacts that this project could have on our natural resources and environment.

I noted in the EIS that the project had potential to impact the distribution of invasive species of plants. To address this, the EIS includes Applicant's Proposed Measure (APM) 50, for project-specific integrated weed management plan.

I appreciate that the EIS takes account for the fact that Burrowing Owls are present and established on the project site, and that a plan is in place to relocate them at a time in their life cycle which will have the least impact on the species (APM 45-48, 57).

I also appreciate the fact that the EIS accounts for Desert Tortoise presence on the project site, to include construction of exclusion fencing (APM 66).

The presence of Desert Bighorn Sheep appears to receive the most attention, perhaps because of its listing as a BLM sensitive species. Certainly as the surveyed individuals are attributed to be a subpopulation of a meta-population, and with the presence of I-15 being a factor, additional habitat fragmentation is of greater concern for this species. The placement of water resources north of I-15 (APM 75) to encourage migration seems to miss the mark, and it is the only APM to address Bighorn Sheep. Is there any past success with this in management of Bighorn Sheep? Or is it simply, "leading a horse to water?" In other words, what evidence is there to suggest that it will work in protecting the wildlife? Are there any collateral benefits to providing water resources for wildlife? (could other target species benefit from it?) Are there any unintended consequences (predation)? Are there any studies on which to base this?

I cannot help to notice that in assessing threats to wildlife, your EIS failed to take into consideration arthropods. I found that there are at least two endangered arthropod species, *Apodemia mormo langei*, and *Speyeria callippe callippe*, listed by US Fish and Wildlife with a range and distribution covering the project area. Will these and other arthropod species be surveyed for?

Thank you for considering my comments on the Soda Mountain Solar Project. I look forward to hearing more about the project and its future implementation.

Regards,

Kevin E Holmes

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:03 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar Project DEIS

----- Forwarded message -----

**From:** **Jared Fuller** <[jgillenfuller@yahoo.com](mailto:jgillenfuller@yahoo.com)>  
**Date:** Tue, Feb 18, 2014 at 3:05 PM  
**Subject:** Soda Mountain Solar Project DEIS  
**To:** "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

The Soda Mountain Solar Project should not be approved. The project would harm a variety of important resources. These include vegetation, soil, habitat for desert tortoise and other wildlife, and visual resources. The project would potentially disrupt the viewshed, wildlife populations and connectivity, and runoff patterns in nearby Mojave National Preserve and wilderness or wilderness study areas.

If however the project receives approval, one of the reduced acreage alternatives should be selected. Soils and standing vegetation should be conserved as much as possible by trimming the vegetation in between panels instead of discing and rolling the entire soil surface. This may reduce dust and would aid site rehabilitation after the project is decommissioned. Also, in addition to cacti and special status plants, any impacted blue palo verde and mesquite should be avoided or transplanted.

Jared G. Fuller  
Pleasant Grove, Utah  
84062

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:03 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Public comment

----- Forwarded message -----

**From:** Dessa Kaye <[dlkaye@juno.com](mailto:dlkaye@juno.com)>  
**Date:** Thu, Feb 20, 2014 at 2:02 PM  
**Subject:** Public comment  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Mr. Childers,

Although I am a strong supporter of solar, wind and other alternative energy sources, the proposed Soda Mountain Solar Project is too big, threatens invaluable wilderness and wildlife, and is poorly situated to provide clean, sustainable energy where it's needed.

In addition to the fact that your DEIS identified around 11,000 brownfields, landfills, and other such sites in California that may be more suitable for renewable energy development than a threatened wilderness area, the high-density consolidation of production is not sustainable and is subject to sabotage and destruction which would widely disrupt power to users. Southern California is especially suited to decentralized power generation in the form of roof-top solar which is much less vulnerable to attack and produces energy where it is used, therefore eliminating the need for long (also vulnerable) transmission lines. A project this size also requires between 1,275 and 1,371 acre-feet of water a year for operations which is impractical in the Mojave in the best of times, let alone in the midst of a record drought with no end in sight.

This location threatens big-horned sheep in the Mojave National Preserve, the federally-threatened desert tortoise and the Mojave fringe-toed lizard, along with burrowing owls and desert kit foxes. Plant species in the area that are considered "threatened by solar development" by the California Native Plant Society include Emory's crucifixion-thorn (*Castela emoryi*), Utah milkvine (*Funastrum utahense*) and the endangered Mohave tui chub. The project would also up against the Soda Mountains Wilderness Study Area, part of which was (and will be again) slated to be designated wilderness by Senator Diane Feinstein's California Desert Protection Act of 2011. The project footprint and the area surrounding it has been classified by the Nature Conservancy as "core habitat" and was described in an early draft of the Desert Renewable Energy Conservation Plan as a "High Biological Sensitivity" area from which solar developers should be diverted if possible.

For all these reasons and more, this project is inappropriate and inefficient and should definitely be rejected.

Thank you,

Dessa Kaye  
Studio City, CA  
[dlkaye@juno.com](mailto:dlkaye@juno.com)

TOM BUDLONG  
3216 MANDEVILLE CANYON ROAD  
LOS ANGELES, CA 90049-1016

Monday, February 24, 2014

Jeff Childers  
BLM California Desert District  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA  
92553

By email to [SodaMtnSolar@BLM.Gov](mailto:SodaMtnSolar@BLM.Gov), and by USPS.

Re: Comment re Alternatives, Soda Mountain Solar Project DEIS/R, November 2013, CACA 049584

Dear Mr. Childers,

The Executive Summary of the DEIS, on page ES-2, discusses BLM's purpose and need, stating it must respond to the Applicant's application.

Chapter 2, Proposed Action and Alternatives, includes as alternatives only variations of the proposed action. It does not include other reasonable alternatives. By including only variations of the same project, the DEIS is in violation of NEPA. The selection of alternatives is too narrow.

The requirement to include all reasonable alternatives is explained in the appropriate CFRs and by the Council on Environmental Quality. The CEQ has published a set of 40 questions and answers to clarify and interpret NEPA and related CFRs<sup>1</sup>. The first two of these 40 questions focus on alternatives.

**Range of Alternatives:**

40 CFR 1502.14 is the basis for the CEQ explanation and clarification:

*(a) Rigorously explore and objectively evaluate all reasonable alternatives...*

CEQ Question 1a clarification and interpretation:

*The phrase "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated...*

**Alternatives Outside the Capability of Applicant or Jurisdiction of Agency**

40 CFR 1502.14:

*(c) Include reasonable alternatives not within the jurisdiction of the lead agency.*

Question 2a: Alternatives Outside the Capability of Applicant or Jurisdiction of Agency.

*Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or*

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<sup>1</sup> [http://www.blm.gov/wo/st/en/prog/planning/nepa/webguide/40\\_most\\_asked\\_questions/questions\\_1-10.html](http://www.blm.gov/wo/st/en/prog/planning/nepa/webguide/40_most_asked_questions/questions_1-10.html)  
<http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=74c9fcc0a58c626bae6c98fde5d9e7dd&r=PART&n=40y34.0.3.3.3#40:34.0.3.3.3.0.29.14>



*applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.*

Question 2b. Must the EIS analyze alternatives outside the jurisdiction or capability of the agency...?

*An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable.... Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable*

Requirements for a robust selection of alternatives stem from a Purpose and Need statement that conforms to NEPA requirements, and from other NEPA requirements.

Section 6.2 of the BLM NEPA Handbook<sup>2</sup> (H-1790-1) clarifies that "*the 'need' for the action can be described as the underlying problem or opportunity to which the BLM is responding with the action.*" In recognition of this the DEIS's Purpose and Need statement (p. 1-3) lists three high level needs – Executive Order 13212, Secretarial Order 3285A1, and the President's Climate Action Plan. (DEIS Section ES2.1, BLM Purpose and Need, page ES-2 (pdf 19))

Section 6.2 then clarifies 'purpose'. "*The 'purpose' can be described as a goal or objective that we are trying to reach. Often the 'purpose' can be presented as the solution to the problem described in the 'need' section.*" In the current situation, the purpose could be, or might be, the applicant's proposed action. Section 2 of the DEIS incorrectly bases its alternative analysis on this narrow purpose. It neglects that the goal, solution, or objective is renewable energy, not renewable energy specifically from the applicant's proposed action.

But NEPA does not allow such narrow solutions. NEPA requires that all reasonable alternatives be considered. The requirement applies to reasonable alternatives that are outside the technology proposed, outside the capabilities of the applicant, outside the jurisdiction of the agency (BLM), and even outside of Congress's vision (see CEQ Question 2).

### **Alternative Exploration and Evaluation**

The alternatives section of the DEIS does not 'rigorously explore', nor does it 'objectively evaluate' the alternatives presented, as required by NEPA. Instead it merely describes their physical characteristics.

### **Reasonable Alternative Locations**

Soda Mountain LLC's Form SF-299 submitted in March of 2013 describes its site selection process. Without explanation, the search for alternative sites was restricted to within 50 miles (5 million acres) of the proposed site – any possible site within the vast territory beyond this 50 mile limit was consequently rejected. The DRECP is evaluating some 22.5 million acres, only 5 million of which are (presumably) in the 50 mile radius. The balance was not considered. The solar PEIS identified 285,000 acres in Solar Energy Zones in six western states. The solar PEIS identified another 19 million in variance areas, none of which were considered. Failure to consider these other areas, with no explanation or justification, appears arbitrary. As a minimum, to avoid the potentially huge effort of evaluating as much as 19

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<sup>2</sup> [http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_handbook.Par.24487.File.dat/h1790-1-2008-1.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.24487.File.dat/h1790-1-2008-1.pdf)

million acres, the applicant could have evaluated the 285,000 SEZ acres, a much smaller area than the 5 million acres that was evaluated.

The implication of omitting these areas for site alternatives is that they are considered empty of reasonable alternatives. Such a conclusion would be absurd. Declining to search for alternative locations leaves the applicant open to accusations that it had pre-determined the proposed location, and presented the arbitrary 50 mile radius search zone in an attempt to justify the proposed location.

The introduction to Section 2.8, Alternatives Considered but Eliminated from Detailed Analysis, pointed out that environmentally sensitive areas such as ACECs and DWMAs were not considered. It also eliminated sites based on the eight criteria, or screening factors, listed in Section 2.2, Alternatives Development and Screening.

BLM's purpose and need is cited several times in Section 2.8 to eliminate alternatives. But this purpose and need statement is in violation of NEPA, as described above, and cannot be used to eliminate alternatives from consideration.

Section 2.8 is silent on which of the eight criteria were used to evaluate and eliminate which alternatives. A simple matrix check-list could have been included to present this information. Failure to connect the criteria to alternative site selection again invites suspicion that the proposed location was pre-determined, and the generalized and undocumented elimination criteria are attempts to justify the proposed location.

#### **A Reasonable Alternative: Distributed Generation**

Rejection of the distributed generation alternative is discussed in Section 2.8.2, Other Types of Renewable Energy Projects (p. 2-41). It states that California alone has 3700 MW installed, and another 4,200 under construction. Note that the capacities of project alternatives presented in Section 2 are between 250 and 358 MW, some 4% of the MW already installed and under construction in California alone. The discussion then lists several reasons for rejection, each rejection explained with unsupported statements:

- Planning and permitting barriers: Not described are the barriers, how the California's 7900 MW installed and under construction have overcome these barriers, and why this project cannot. The statement for rejection as an alternative is unsupported, leaving room for suspicion that it is incorrect.
- Integration limitations: Distributed generation is characterized as speculative because of limits of integration with the electric grid. Again, specifics are omitted. What are the integration limits? How are California's 7900 installed and under construction megawatts dealing with integration? Explanation is lacking. No independent data or reports are presented to support this rejection for inclusion in the Alternatives section.
- Lack of electricity storage: The only cite is from the California Governor's Office. No independent data or reports are referenced to show that energy storage problems preclude adding 4% to the 7,900 MW already installed and being installed in California. Needed is more substantial information to justify exclusion from the alternatives section.
- Purpose and need: The incorrect (see above) BLM's purpose and need stated in Section 1.2.1 is cited as a reason to reject including distributed generation in the alternatives. A NEPA-compatible statement would allow inclusion of distributed generation as an alternative.

- Lack of authority: "Furthermore, BLM has no authority or influence over the installation of distributed generation systems..." As described above, NEPA does not restrict inclusion in the alternatives section of the DEIS alternatives that are outside the jurisdiction of the lead agency. (40 CFR 1502.14). This inclusion is repeated by the Council on Environmental Quality, Question 2, as shown earlier in this comment letter. BLM's lack of authority and influence cannot be used to reject analysis of this alternative in the DEIS.

BLM must revise its purpose and need statement and include reasonable alternatives in conformance with NEPA. BLM must include these changes in a revised Draft EIS/R, and recirculate the document for public comment.

Sincerely,

A handwritten signature in black ink that reads "Tom Budlong". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Tom Budlong

Voice: 310-963-1731

Fax: 310-471-7531

email: [TomBudlong@RoadRunner.com](mailto:TomBudlong@RoadRunner.com)

TOM BUDLONG  
3216 MANDEVILLE CANYON ROAD  
LOS ANGELES, CA 90049-1016

Monday, February 24, 2014

Jeff Childers  
BLM California Desert District  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA  
92553

By email to [SodaMtnSolar@BLM.Gov](mailto:SodaMtnSolar@BLM.Gov), and by USPS.

Re: Comment re Unnecessary Degradation, Soda Mountain Solar Project DEIS/R, November 2013, CACA 049584

Dear Mr. Childers,

Given FLPMA's mandate that "**In managing the public lands, the Secretary shall, by regulation or otherwise, take any action necessary to prevent undue or unnecessary degradation of the lands.**", decisions concerning siting the Soda Mountains Solar Project must be postponed so that alternative project locations can be analyzed under the DRECP.

The project will degrade public land. By scraping, clearing, grubbing and grading, the quality of the project site will be substantially reduced. The DRECP represents a careful analysis of the complexity of siting projects for renewable energy, in consideration of both renewable energy and conservation. A goal of the DRECP is to replace the prior chaotic and unplanned site selection process that did not consider conservation with carefully thought-out, vastly more responsible siting selection.

This project site was selected when responsible site selection as represented by the DRECP had no, or minimal, consideration. The DRECP has a very high probability of identifying alternate sites with much less degradation. DRECP will likely avoid excessive and unnecessary degradation.

In its search for alternative sites Soda Mountain Solar, LLC limited its choice by considering only locations within 50 miles of the proposed alternative. It did not consider the huge public land area of outside the 50 mile radius. This restriction is described in the Form SF-299 submitted to BLM in March, 2013. The project applicant did not explain in Form SF-299, nor does the DEIS explain, why it is not willing to locate more than 50 miles from the proposed location. The restriction appears artificial and arbitrary.

It is highly likely that siting under DRECP will result in a project that better balances necessity and degradation. Presuming the project is considered necessary, a site with less land degradation would prevent the unnecessary degradation forbidden by FLPMA.

- BLM has a responsibility to the public, and to the mandate in FLPMA, to postpone this decision until the carefully planned DRECP can be used for site selection.
- BLM, with DRECP as a tool, has the opportunity to reject the FLPMA-incompatible selection of the DEIR's Proposed Alternative, in favor of an environmentally responsible DRECP-compatible selection that considers conservation as well as renewable energy.

Sincerely,



Tom Budlong

Voice: 310-963-1731

Fax: 310-471-7531

email: [TomBudlong@RoadRunner.com](mailto:TomBudlong@RoadRunner.com)

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:04 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountains Solar Project  
**Attachments:** Soda Mtns Kiwanis Letter NW (2).docx

----- Forwarded message -----

**From:** Marc Greenhouse <[marcgreenhouse@gmail.com](mailto:marcgreenhouse@gmail.com)>  
**Date:** Mon, Feb 24, 2014 at 10:36 AM  
**Subject:** Soda Mountains Solar Project  
**To:** [Supervisorlovingood@sbcounty.gov](mailto:Supervisorlovingood@sbcounty.gov), [Supervisorramos@sbcounty.gov](mailto:Supervisorramos@sbcounty.gov), [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)  
**Cc:** Peggy Poortinga <[peggypoortinga@hotmail.com](mailto:peggypoortinga@hotmail.com)>

Attached is a copy of a letter regarding the Soda Mountains Solar project.

February 21, 2014

Congressman Paul Cook  
Bureau of Land Management  
California Energy Commissioners  
San Bernardino County Supervisors

Dear Congressman Paul Cook, Bureau of Land Management staff, California Energy Commissioners and San Bernardino County Supervisors:

My name is Marc Greenhouse, and I am the president of the Greater Yucca Valley Kiwanis Club. As a club we are very concerned about the Soda Mountains Solar Project because it impacts an area that has been set aside for the use of future generations of American's. As Kiwanians it is our stated purpose to better the lives of Children. It is important as a recreational and educational resource that we must not do anything that would damage or destroy a treasure like the Mojave National Preserve.

We are opposed to the Soda Mountains Solar Project because of its adverse impacts to the Mojave National Preserve, Soda Mountains Wilderness Study Area, scenic vistas, water resources and the endangered tui chub, bighorn sheep migration corridors and tortoise habitat.

The Soda Mountains Solar Project would be one of the closest, if not the closest, renewable energy project located next to a national park unit. It should not be constructed in a high resource conflict area adjacent to the Mojave National Preserve, our third largest national park unit in the lower fort-eight states.

The Mojave National Preserve is a world class tourist destination that in 2010 had over 500,000 recreational visits. Those visitors spent over \$13 million in gateway communities and supported over 200 full and part time jobs, demonstrating that the Preserve is a powerful economic engine, recreational haven and island of biodiversity. The Soda Mountains Solar Project jeopardizes National Park Service management goals and objectives to protect the Mojave National Preserve. We believe there is an economic, as well as an environmental imperative to protect the Preserve's scenic vistas, visitor experience, wildlife habitat and water resources. Please analyze alternatives for other locations for the Soda Mountain Solar Project and relocate it to an area that doesn't jeopardize our natural resources and our communities.

Sincerely,



## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:05 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mtn Solar

----- Forwarded message -----

From: **Bob Burke** <[cameracoordinator@sheepsociety.com](mailto:cameracoordinator@sheepsociety.com)>  
Date: Tue, Feb 25, 2014 at 10:38 AM  
Subject: Soda Mtn Solar  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Jeffery Childers, Soda Mountain Solar Project Manager,

Thank you for taking the time to read this E-mail, about this solar project. My name is Bob Burke, I am the Vice President of the Society for the Conservation of Bighorn Sheep and a resident of Barstow Ca. and this project will further disrupt the connection of the Bighorn Sheep between the north soda mountains' and the south soda mountains' as you may recall from the public comments meeting in Barstow there has been sheep sighting in the project area along with lots of sheep sign i.e., tracks and droppings inside the project area.

I also don't like the idea of fences anywhere in or near the project that would keep any sheep from passing through. Then, there is the question about the water in the area, there is an opportunity to greater help the Desert Bighorn Sheep reconnect in that area by the placement of Wildlife Water Sources in conjunction with California Fish & Wildlife Management Plan.

In closing, beside the view that in that area should not be disrupted on either side of the freeway as it is in the state line area where that huge plant is located.

Bob Burke  
Vice President, Society for the Conservation of Bighorn Sheep  
[www.desertbighorn.org](http://www.desertbighorn.org)

## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Tuesday, February 25, 2014 7:01 PM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain project.

Jeff Childers

----- Forwarded message -----

From: "Ed Gala" <[egala@socal.rr.com](mailto:egala@socal.rr.com)>  
Date: Feb 25, 2014 3:42 PM  
Subject: Soda Mountain project.  
To: <[jchilders@blm.gov](mailto:jchilders@blm.gov)>  
Cc:

The Soda Mountain Solar Project would be located one quarter of a mile away from Mojave National Preserve and be one of the closest, if not the closest, industrial scale renewable energy projects to a national park unit in the entire southwestern United States.

The project threatens bighorn sheep migration corridors, desert tortoise habitat, scenic vistas and water quality and quantity at Mohave Chub Spring in the Mojave National Preserve, the home of the federally endangered tui chub--one of our rarest desert fish.

I urge you to work to relocate the Soda Mountain Solar Project to an area where it does not harm our national park units, natural resources, archaeological sites or desert communities. At last count, the California desert alone has over one million acres of disturbed lands or previously developed lands that may be more appropriate for solar panels and associated development. Additionally, I respectfully request a 60 day extension on the public comment period to further analyze alternative locations for this project.

Individual solar on homes, over parking lots, industrial areas, commercial rooftops, agricultural land yes. Large scale industrial solar in pristine undeveloped or residential areas no.

Thank you for your time and consideration. Ed Gala, 2979 Valley Vista Ave. Yucca Valley, CA 92284

## Alexandra Kostalas

---

**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:05 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: mitigation possibilities

----- Forwarded message -----

**From:** Dave Focardi <[datawrangler81@gmail.com](mailto:datawrangler81@gmail.com)>  
**Date:** Wed, Feb 26, 2014 at 4:11 PM  
**Subject:** mitigation possibilities  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Just as habitat can be "mitigated" at 5:1 ratios, how about having the solar installed-especially panel solar- at a 1:1 ratio? Have the utilizer of my public lands be required to put up or have put up solar on rooftops/.parking lots in a ratio to help meet California's mandated renewable energy requirements?

I recently heard from Scott Flint working on the DRECP that massive public land solar will not be enough to meet CA energy needs, that rooftop as well as industrial solar will be required. Why not help get that started?

Also, if there is any way to deny this project until DRECP is issued, it would make it harder to start construction. I know solar in the application process prior to DRECP are 'grandfathered' in, but please use some common sense here. DRECP will help fast track "not-so-bad-solar" and help prohibit bad solar, which this so obviously is.

--

Dave Focardi

January 27, 2014

Bechtel Corporate Headquarters

Attn: Andy Greig

50 Beale Street

San Francisco, California

United States, 94105-1875

Dear Mr. Greig,

My name is Kellie King, and I currently reside in the beautiful area of Joshua Tree, California. As someone who is aware of the ecological proposals in the area in which I live, it is my understanding that there is a proposed solar project projected to be built in the Soda Mountains of the Mojave National Preserve. I am against this proposal due to its obvious flaws and formidable potential to wreak havoc on the surrounding ecosystem.

I am opposed to the Soda Mountains Solar Project due to its adverse to the Mojave National Preserve, Soda Mountains Wilderness Study Area, scenic views, water resources, and the endangered species residing in the area.

The Soda Mountains would be one of the closest, if not the closest, renewable energy projects located next to a national park unit. The project should not be constructed in such a conflicting area adjacent to the Mojave National Preserve. The area is a biological hotspot thriving with keystone species that are imperative to the successful and proper functioning of the ecosystem.

The Mojave National Preserve is a world-class tour destination that, in 2010, had over 500,000 tourist visits. The preserve proves to be both a recreational haven as well as a flourishing island of biodiversity. The implantation of solar energy projects would destroy this biodiversity, as well as the simplistic beauty that is the Soda Mountains. As a longtime resident of the desert, I am able to fully embrace its beauty and overwhelming majesty, which many outsiders cannot yet see. I support solar energy, but not in this fashion. I believe there is an economic as well as an environmental imperative to protect the Preserve's scenic vistas, visitor experience, wildlife habitat, and water resources. I genuinely hope you will consider this in your course of action, and remember the lives being affected by this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kellie King', with a long horizontal flourish extending to the right.

Kellie King

60225 Chesapeake Dr.

Joshua Tree, CA 92252

Jeffery Childers, Soda Mountain Solar Project Manager  
BLM  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 27, 2014

Dear Mr Childers,

As a resident of Baker, California, I am writing today in support of the Soda Mountain Solar project, currently proposed for BLM land in San Bernardino County, just a few miles from our community.

As you may know, our community has suffered a number of economic setbacks in recent years. The recession, and the complete dependence of our community on providing travel services, has left the community vulnerable to economic fluctuations.

The Soda Mountain project would benefit the local service industry, like restaurants and gas stations businesses for the 2-3 years of local spending from construction, and also businesses like mine, as a property manager.

Here in the community we would like to know what benefits the developer would bring in addition to local spending, such as helping to lower our utility bills or bring solar panels to the community, where we have very high electricity bills.

I appreciate your attention to this letter.

Sincerely,



William Thacker  
p.o. box 416  
Baker, CA 92309

RECEIVED  
BUREAU OF LAND MGMT.  
MAIL ROOM

2014 FEB 28 PM 3:32

CALIF. DESERT DISTRICT  
MORENO VALLEY, CA

## *Clark's Mobil Home Park*

P. O. Box 69  
Baker, CA, 92309  
February 25, 2014

Jeffery Childers, Soda Mt. Solar Project  
22835 Calle San Juan De Los Largos  
Moreno Valley, Ca. 92553

To Whom it May Concern:

My name is Lois Clark and I have owned a business in Baker for many years. During that time I have watched the town's economy steadily decline do to the restrictions of government regulations. The town is boxed in by the Mojave National Preserve and the BLM and it is impossible to expand the business community.

The Solar Project would not only be beneficial to the economy of the town but would benefit the energy shortage of California and the nation. It would also be a benefit to our necessary small school and give our young people a chance to be involved in a new vocation like the solar industry.

Sincerely,



Lois Clark  
lclark5@wildblue.net



Sidney Silliman  
1225 Adriana Way  
Upland, CA 91784

March 1, 2014

**Via Email and U.S. Mail**

Jeffrey Childers, Project Manager  
California Desert District Office  
Bureau of Land Management  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA 92553  
[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

**Re: Draft Joint Environmental Impact Statement and Environmental Impact Report and California Desert Conservation Area Plan Amendment for the Proposed Soda Mountain Solar Project, San Bernardino County, California**

Dear Mr. Childers:

My comments on the Draft Joint Environmental Impact Statement and Environmental Impact Report and California Desert Conservation Area Plan Amendment for the Soda Mountain Solar project are submitted as a resident of San Bernardino County and as a frequent visitor to the Mojave desert region. My concerns regarding the proposed project were expressed at the Soda Mountain Solar Project Stakeholder meeting in Barstow on December 12, 2012, and at the public meeting on January 9, 2014, also in Barstow.

Restrictions On Public Participation

Bureau of Land Management (BLM) failed to record public comments at the meetings of January 8, 9 and 11, even though its web site announced that the Bureau and the County of San Bernardino had scheduled “public meetings for public comment” on the project's draft environmental documents. My understanding is that the California Desert District Manager decided not to take note of public comments. Not recording commentary from interested citizens who travel great distances to participate makes a mockery of holding “public meetings” and is probably illegal. BLM restrictions on public participation in this instance certainly violates President Barak Obama’s commitment to “...creating an unprecedented level of openness in government.” As the President stated:

We will work together to ensure the public trust and establish a system of transparency, public participation and collaboration. Openness will strengthen our democracy and promote efficiency and effectiveness in government.”

BLM failed at the public meeting of January 9 to provide descriptions and visual representations of each alternative in the Draft EIS/EIR/CDCA Plan Amendment. Each of the seven alternatives should have been presented during the meeting. In particular, the Bureau failed to display information regarding Alternatives E and G, alternatives that merit analysis because they would protect valued resources on public lands and the resources of Mojave National Preserve.

### Environmental Concerns

I have significant concerns regarding potential impacts to the federally-listed endangered species and California species of special concern, loss of wildlife connectivity (especially for desert bighorn sheep), habitat de-fragmentation, view shed degradation, and groundwater. These concerns are not adequately addressed in the Draft EIS/EIR/CDCA Plan Amendment.

Direct and indirect impacts associated with the project have potential to impact the resources of Mojave National Preserve, resources that have been mandated by the Organic Act of 1916 and the California Desert Protection Act of 1994 to be protected by the Preserve. These impacts are not adequately accounted for in the Draft EIS/EIR/CDCA Plan Amendment.

The sections of the Draft EIS/EIR/CDCA Plan Amendment pertaining to project impacts to groundwater are wholly inadequate. There is little or no data supporting BLM assertions as to potential impacts on water; indeed, there is no formal study of the likely impacts presented in the Draft. On pages 3.19-7 and 3.19-8, BLM relies only on “estimates” of subbasin storage and “experience elsewhere” with respect to recharge rates. The absence of reliable data and good science is of special concern because the springs at Zzyzx lie less than one mile from the project site and include MC Spring, habitat for the source population of the endangered Mohave tui chub, listed as endangered under both the federal Endangered Species Act and the California Endangered Species Act.

BLM must adequately address these and other concerns in a revised Draft EIS/EIR, circulate the revised document for public comment, and ensure that comments at public meetings are recorded

### Preferred Alternative

Should BLM choose not to revise the Draft EIS/EIR, it should select Alternative G as the preferred alternative. This is the only option that would protect resources at the proposed site and in the Mojave National Preserve.

The petition to the Obama Administration (<http://wh.gov/IUxYt>) urging that it “protect Mojave National Preserve by denying Bechtel’s request for a public land grant to build its Soda Mountain Solar” demonstrates wide-spread support for a “No Action/No Project” alternative like Alternative G. To date, the petition on the White House web site (<http://WhiteHouse.gov>) has been signed by 470 people. The petition request is supported as follows:

Bechtel proposes to build Soda Mountain Solar on 4,179 acres of public land adjacent to Mojave National Preserve, threatening the resources and landscape of this treasured unit of the National Park System.

Soda Mountain will interfere markedly with the habitat corridor linking Joshua Tree and Death Valley National Parks.

The environmental impacts of Soda Mountain include decreased spring discharge at Zzyzx, loss of habitat for the endangered Mohave tui chub, loss of high-quality desert tortoise habitat, increased habitat fragmentation for desert bighorn sheep, and loss of wildlife connectivity with nearby wilderness areas.

Soda Mountain will obstruct dramatic views into the Preserve and degrade the dark skies experience of the park's 550,000 annual visitors.

Sincerely,

G. Sidney Silliman/s

We The People Petition (<http://wh.gov/1UxYt>)  
Soda Mountain Solar Project

March 1, 2014

**Via Email and U.S. Mail**

Jeffrey Childers, Project Manager  
California Desert District Office  
Bureau of Land Management  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA 92553  
[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

**Re: Draft Joint Environmental Impact Statement and Environmental Impact Report and California Desert Conservation Area Plan Amendment for the Proposed Soda Mountain Solar Project, San Bernardino County, California**

Dear Mr. Childers:

I am pleased to submit for the official record a petition ( <http://wh.gov/1UxYt> ) requesting the Obama Administration to “protect Mojave National Preserve by denying Bechtel’s request for a public land grant to build its Soda Mountain Solar.” The petition was created on We The People ([WhiteHouse.gov](http://WhiteHouse.gov)) on February 13, 2014, and, to date, has been signed by 472 people.

The petition request and its supporting arguments are hereby submitted to BLM as public comments on the Draft EIS/EIR/CDCA Plan Amendment:

Bechtel proposes to build Soda Mountain Solar on 4,179 acres of public land adjacent to Mojave National Preserve, threatening the resources and landscape of this treasured unit of the National Park System.

Soda Mountain will interfere markedly with the habitat corridor linking Joshua Tree and Death Valley National Parks.

The environmental impacts of Soda Mountain include decreased spring discharge at Zzyzx, loss of habitat for the endangered Mohave tui chub, loss of high-quality desert tortoise habitat, increased habitat fragmentation for desert bighorn sheep, and loss of wildlife connectivity with nearby wilderness areas.

Soda Mountain will obstruct dramatic views into the Preserve and degrade the dark skies experience of the park’s 550,000 annual visitors.

The petition is signed by individuals in all of regions of the United States (east and west, north and south). Support for the petition and opposition to Soda Mountain Solar is growing daily.

It is assumed that the Bureau, as an agency of the Obama Administration, would grant the petition's request by selecting "Alternative G as the preferred alternative among those presented in the Draft EIS/EIR/CDCA Plan Amendment. As the petition urges, BLM would not issue a right-of-way grant to the Bechtel Corporation for construction of the Soda Mountain solar project. In addition, the CDCA Plan would be amended to identify the requested right-of-way area as unsuitable for solar development. San Bernardino County would not approve a groundwater well permit.

Sincerely,

G. Sidney Silliman/s  
1225 Adriana Way  
Upland, CA 91784

Cc: Secretary Sally Jewell

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WE PETITION THE OBAMA ADMINISTRATION TO:

## protect Mojave National Preserve by denying Bechtel's request for a public land grant to build its Soda Mountain Solar.

Bechtel proposes to build Soda Mountain Solar on 4,179 acres of public land adjacent to Mojave National Preserve, threatening the resources and landscape of this treasured unit of the National Park System.

Soda Mountain will interfere markedly with the habitat corridor linking Joshua Tree and Death Valley National Parks.

The environmental impacts of Soda Mountain include decreased spring discharge at Zzyzx, loss of habitat for the endangered Mohave tui chub, loss of high-quality desert tortoise habitat, increased habitat fragmentation for desert bighorn sheep, and loss of wildlife connectivity with nearby wilderness areas.

Soda Mountain will obstruct dramatic views into the Preserve and degrade the dark skies experience of the park's 550,000 annual visitors.

Created: Feb 13, 2014

Issues: [Energy](#) [Environment](#) [Natural Resources](#)

[Learn about Petition Thresholds](#)

SIGNATURES NEEDED BY  
MARCH 15, 2014 TO  
REACH GOAL OF 100,000

**99,509**

TOTAL SIGNATURES  
ON THIS PETITION

**491**

A whitehouse.gov account is required to sign Petitions. [WHY?](#)

If you're logged in, but having trouble signing this petition, [click here for help](#).

[Promote this Petition](#)

**Signatures: 491 of 491**

CREATOR

S. S.  
Upland, CA  
February 13, 2014  
Signature # 1

R. R.

Norman, OK  
March 03, 2014  
Signature # 491

M. D.

Strattanville, PA  
March 03, 2014  
Signature # 490

V. S.

Miami, FL  
March 03, 2014  
Signature # 489



R. B.  
Bronx, NY  
March 02, 2014  
Signature # 488

D. T.  
Rancho Cucamonga,  
CA  
March 02, 2014  
Signature # 487

D. H.  
March 02, 2014  
Signature # 486

D. B.  
Williamsport, PA  
March 02, 2014  
Signature # 485

J. C.  
Greenwood Lake, NY  
March 02, 2014  
Signature # 484

K. V.  
Phelan, CA  
March 02, 2014  
Signature # 483

M. P.  
March 02, 2014  
Signature # 482

M. S.  
Yucca Valley, CA  
March 02, 2014  
Signature # 481

C. F.  
March 02, 2014  
Signature # 480

B. H.  
Nottingham, MD  
March 02, 2014  
Signature # 479

O. P.  
Landers, CA  
March 02, 2014  
Signature # 478

A. M.  
Hemet, CA  
March 01, 2014  
Signature # 477

M. G.  
Rialto, CA  
March 01, 2014  
Signature # 476

G. T.  
March 01, 2014  
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B. B.  
Barstow, CA  
March 01, 2014  
Signature # 474

M. B.  
Long Beach, CA  
March 01, 2014  
Signature # 473

K. H.  
El Cerrito, CA  
March 01, 2014  
Signature # 472

C. W.  
Wenham, MA  
March 01, 2014  
Signature # 471

G. V.  
Daytona Beach, FL  
March 01, 2014  
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J. R.  
March 01, 2014  
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G. A.  
Catonsville, MD  
March 01, 2014  
Signature # 468

A. S.  
Danielson, CT  
March 01, 2014  
Signature # 467

C. S.  
San Jose, CA  
February 28, 2014  
Signature # 466

T. S.  
Seattle, WA  
February 28, 2014  
Signature # 465

C. D.  
Los Angeles, CA  
February 28, 2014  
Signature # 464

M. G.  
Berkeley, CA  
February 28, 2014  
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L. B.  
San Francisco, CA  
February 28, 2014  
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J. D.  
Harold, FL  
February 28, 2014  
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B. C.  
Bolingbrook, IL  
February 28, 2014  
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E. H.  
Los Angeles, CA  
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J. S.  
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M. P.  
San Jose, CA  
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M. G.  
Houston, TX  
February 28, 2014  
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A. W.  
Des Moines, IA  
February 28, 2014  
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P. B.  
Stuttgart, AR  
February 28, 2014  
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A. R.  
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L. T.  
Lompoc, CA  
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K. F.  
February 28, 2014  
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A. A.  
Mays Landing, NJ  
February 28, 2014  
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M. S.  
Alpharetta, GA  
February 28, 2014  
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C. A.  
Tollhouse, CA  
February 28, 2014  
Signature # 448

S. O.  
New York, NY  
February 28, 2014  
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S. R.  
Millbrae, CA  
February 28, 2014  
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M. H.  
Palm Springs, CA  
February 28, 2014  
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J. V.  
Canoga Park, CA  
February 28, 2014  
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C. K.  
Pasadena, CA  
February 28, 2014  
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P. N.  
Warner Springs, CA  
February 28, 2014  
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K. F.  
Seattle, WA  
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C. O.  
Fairfield, OH  
February 27, 2014  
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S. M.  
Los Angeles, CA  
February 27, 2014  
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D. K.  
Davenport, CA  
February 27, 2014  
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B. P.  
Trenton, MI  
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I. B.  
Seattle, WA  
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W. R.  
Bellingham, WA  
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E. F.  
San Francisco, CA  
February 27, 2014  
Signature # 434

L. K.  
Huntington Beach, CA  
February 27, 2014  
Signature # 433

B. T.  
Fairmont, WV  
February 27, 2014  
Signature # 432

T. I.  
Portland, OR  
February 27, 2014  
Signature # 431

L. L.  
Fort Worth, TX  
February 27, 2014  
Signature # 430

G. R.  
Morgan Hill, CA  
February 27, 2014  
Signature # 429

L. W.  
South Pasadena, CA  
February 27, 2014  
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S. W.  
Bisbee, AZ  
February 27, 2014  
Signature # 427

B. T.  
February 27, 2014  
Signature # 426

H. E.  
Melissa, TX  
February 27, 2014  
Signature # 425

B. H.  
Washington, DC  
February 27, 2014  
Signature # 424

J. E.  
Seattle, WA  
February 27, 2014  
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R. B.  
Alta Loma, CA  
February 27, 2014  
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V. B.  
Las Cruces, NM  
February 27, 2014  
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S. J.  
Riverdale, MD  
February 27, 2014  
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N. B.  
Saunemin, IL  
February 27, 2014  
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M. H.  
Knoxville, TN  
February 27, 2014  
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V. C.  
February 27, 2014  
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T. M.

February 27, 2014  
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S. F.

Walnut, CA  
February 27, 2014  
Signature # 415

E. W.

Cleveland, TN  
February 27, 2014  
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D. G.

Phelan, CA  
February 27, 2014  
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E. P.

Homestead, FL  
February 27, 2014  
Signature # 412

D. T.

Arlington, TX  
February 27, 2014  
Signature # 411

G. L.

Bensenville, IL  
February 27, 2014  
Signature # 410

A. M.

Indianapolis, IN  
February 27, 2014  
Signature # 409

J. W.

Longview, TX  
February 27, 2014  
Signature # 408

C. M.

Annandale, VA  
February 27, 2014  
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J. B.

Mount Kisco, NY  
February 27, 2014  
Signature # 406

C. T.

February 27, 2014  
Signature # 405

C. H.

Warren, MI  
February 27, 2014  
Signature # 404

L. S.

Ridgecrest, CA  
February 26, 2014  
Signature # 403

M. K.

Escondido, CA  
February 26, 2014  
Signature # 402

S. J.

February 26, 2014  
Signature # 401

N. K.

West Bend, WI  
February 26, 2014  
Signature # 400

M. P.

February 26, 2014  
Signature # 399

C. K.

Urbandale, IA  
February 26, 2014  
Signature # 398

G. H.

Youngstown, FL  
February 26, 2014  
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L. H.

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J. F.

Saint Louis, MO  
February 26, 2014  
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February 26, 2014  
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M. K.

Norristown, PA  
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C. O.

Twentynine Palms, CA  
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K. G.

Chicago, IL  
February 26, 2014  
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J. K.

Huntington, NY  
February 26, 2014  
Signature # 390

D. C.

Sidney, NE  
February 26, 2014  
Signature # 389

R. V.

Dallas, TX  
February 26, 2014  
Signature # 388

C. R.

Levittown, NY  
February 26, 2014  
Signature # 387

R. D.

February 26, 2014  
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A. B.

February 26, 2014  
Signature # 385

M. W.

Sonora, CA  
February 26, 2014  
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I. G.

Gaithersburg, MD  
February 26, 2014  
Signature # 383

S. M.

Bradenton, FL  
February 26, 2014  
Signature # 382

A. P.

Ridgecrest, CA  
February 26, 2014  
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K. R.  
Humboldt, AZ  
February 26, 2014  
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A. C.  
February 26, 2014  
Signature # 379

A. A.  
Elmira, NY  
February 26, 2014  
Signature # 378

E. K.  
Tecumseh, NE  
February 26, 2014  
Signature # 377

M. M.  
North Adams, MA  
February 26, 2014  
Signature # 376

S. K.  
Milwaukee, WI  
February 26, 2014  
Signature # 375

M. C.  
February 26, 2014  
Signature # 374

L. H.  
February 26, 2014  
Signature # 373

N. H.  
Lusby, MD  
February 26, 2014  
Signature # 372

R. M.  
Dearborn, MI  
February 26, 2014  
Signature # 371

K. M.  
Derby, KS  
February 26, 2014  
Signature # 370

A. D.  
Clarkston, MI  
February 26, 2014  
Signature # 369

J. F.  
San Bernardino, CA  
February 26, 2014  
Signature # 368

M. B.  
Prescott, AZ  
February 25, 2014  
Signature # 367

P. M.  
Scott City, MO  
February 25, 2014  
Signature # 366

B. B.  
Alexandria, VA  
February 25, 2014  
Signature # 365

S. J.  
Tuscaloosa, AL  
February 25, 2014  
Signature # 364

M. E.  
Imperial, MO  
February 25, 2014  
Signature # 363

N. D.  
February 25, 2014  
Signature # 362

L. M.  
Saratoga, CA  
February 25, 2014  
Signature # 361

T. S.  
West Chester, PA  
February 25, 2014  
Signature # 360

E. B.  
Dayton, OH  
February 25, 2014  
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K. F.  
Phoenix, AZ  
February 25, 2014  
Signature # 358

B. C.  
Jackson, MO  
February 25, 2014  
Signature # 357

A. S.  
Clinton, WI  
February 25, 2014  
Signature # 356

J. H.  
Republic, MI  
February 25, 2014  
Signature # 355

S. R.  
Buena Park, CA  
February 25, 2014  
Signature # 354

J. S.  
Springdale, UT  
February 25, 2014  
Signature # 353

S. R.  
Houston, TX  
February 25, 2014  
Signature # 352

R. P.  
Boyd's, MD  
February 25, 2014  
Signature # 351

M. E.  
Minneapolis, MN  
February 25, 2014  
Signature # 350

C. R.  
February 25, 2014  
Signature # 349

S. C.  
Fort Myers, FL  
February 25, 2014  
Signature # 348

O. C.  
New Buffalo, MI  
February 25, 2014  
Signature # 347

J. V.  
Reading, PA  
February 25, 2014  
Signature # 346

P. T.  
Hatfield, PA  
February 25, 2014  
Signature # 345



S. G.  
Santa Clara, CA  
February 25, 2014  
Signature # 344

M. F.  
February 25, 2014  
Signature # 343

R. V.  
New York, NY  
February 25, 2014  
Signature # 342

L. B.  
Lombard, IL  
February 25, 2014  
Signature # 341

W. J.  
February 25, 2014  
Signature # 340

B. C.  
Atlanta, GA  
February 25, 2014  
Signature # 339

K. H.  
Santa Fe, NM  
February 25, 2014  
Signature # 338

R. F.  
Apison, TN  
February 25, 2014  
Signature # 337

T. W.  
Guthrie, OK  
February 25, 2014  
Signature # 336

C. S.  
Downers Grove, IL  
February 25, 2014  
Signature # 335

A. V.  
Mason, OH  
February 25, 2014  
Signature # 334

T. F.  
February 25, 2014  
Signature # 333

Y. N.  
February 25, 2014  
Signature # 332

S. M.  
Dillsburg, PA  
February 25, 2014  
Signature # 331

J. M.  
Chicago, IL  
February 25, 2014  
Signature # 330

A. T.  
Warrensburg, MO  
February 25, 2014  
Signature # 329

D. H.  
Franklin, MA  
February 24, 2014  
Signature # 328

S. C.  
Anaheim, CA  
February 24, 2014  
Signature # 327

D. G.  
Columbia, SC  
February 24, 2014  
Signature # 326

A. F.  
Laguna Niguel, CA  
February 24, 2014  
Signature # 325

Y. K.  
Seattle, WA  
February 24, 2014  
Signature # 324

M. T.  
Pottstown, PA  
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Signature # 323

P. S.  
Bishop, CA  
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Signature # 322

D. P.  
Corona, CA  
February 24, 2014  
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E. G.  
Evanston, IL  
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Signature # 320

A. M.  
Springfield, MO  
February 24, 2014  
Signature # 319

L. V.  
Jamaica Plain, MA  
February 24, 2014  
Signature # 318

N. G.  
Monticello, MN  
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Signature # 317

A. B.  
Lancaster, CA  
February 24, 2014  
Signature # 316

R. W.  
Indianapolis, IN  
February 24, 2014  
Signature # 315

A. D.  
Hewlett, NY  
February 24, 2014  
Signature # 314

K. R.  
February 24, 2014  
Signature # 313

M. B.  
The Colony, TX  
February 24, 2014  
Signature # 312

C. E.  
February 24, 2014  
Signature # 311

V. G.  
Milwaukee, WI  
February 24, 2014  
Signature # 310

S. W.  
Marion, IL  
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K. R.  
Keedysville, MD  
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C. L.  
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K. M.  
Sterling Heights, MI  
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K. M.  
Greenlawn, NY  
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C. H.  
Brandon, FL  
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T. F.  
Temperance, MI  
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J. N.  
Hawthorne, CA  
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A. F.  
Twentynine Palms, CA  
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K. T.  
Reno, NV  
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B. M.  
Barstow, CA  
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K. A.  
Fullerton, CA  
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G. C.  
Skokie, IL  
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G. S.  
Cookeville, TN  
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L. S.  
Mahomet, IL  
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T. R.  
Colleyville, TX  
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C. T.  
Pittsburgh, PA  
February 23, 2014  
Signature # 293

C. F.  
Boca Raton, FL  
February 23, 2014  
Signature # 292

A. C.  
London, KY  
February 23, 2014  
Signature # 291

A. Z.  
Pleasanton, CA  
February 23, 2014  
Signature # 290

G. E.  
Mead, WA  
February 23, 2014  
Signature # 289

C. C.  
Death Valley, CA  
February 23, 2014  
Signature # 288

E. M.  
Maurice, LA  
February 23, 2014  
Signature # 287

M. A.  
Pierz, MN  
February 23, 2014  
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S. B.  
Las Vegas, NV  
February 23, 2014  
Signature # 285

H. W.  
Seattle, WA  
February 23, 2014  
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J. J.  
February 23, 2014  
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J. B.  
Soquel, CA  
February 23, 2014  
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L. P.  
Oak Park, MI  
February 23, 2014  
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S. T.  
Apex, NC  
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Y. K.  
Santa Barbara, CA  
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S. E.  
Jamesville, NY  
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K. F.  
Washington, DC  
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J. G.  
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A. D.  
Seattle, WA  
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A. F.  
San Francisco, CA  
February 23, 2014  
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J. W.  
February 23, 2014  
Signature # 273



K. M.  
Elizabeth, CO  
February 23, 2014  
Signature # 272

I. P.  
February 23, 2014  
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E. C.  
Virginia Beach, VA  
February 23, 2014  
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E. T.  
Yakima, WA  
February 23, 2014  
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E. M.  
San Mateo, CA  
February 23, 2014  
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L. H.  
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A. G.  
Miami, FL  
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B. W.  
Richmond, TX  
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M. R.  
Reno, NV  
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J. P.  
Northbridge, MA  
February 22, 2014  
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T. M.  
Orinda, CA  
February 22, 2014  
Signature # 262

C. M.  
Old Town, ME  
February 22, 2014  
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J. B.  
Carmel Valley, CA  
February 22, 2014  
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B. S.  
Gladstone, OR  
February 22, 2014  
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S. C.  
Spring Valley, CA  
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K. D.  
Bishop, CA  
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R. W.  
Washburn, WI  
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V. T.  
Aliso Viejo, CA  
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D. N.  
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M. K.  
Cape Coral, FL  
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J. C.  
Denton, TX  
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A. S.  
Farmington, MI  
February 22, 2014  
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K. E.  
Show Low, AZ  
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K. D.  
February 22, 2014  
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M. U.  
Minneapolis, MN  
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A. B.  
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D. H.  
Burns, TN  
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M. B.  
San Francisco, CA  
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S. C.  
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M. R.  
Glencoe, IL  
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M. F.  
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S. T.  
El Dorado Hills, CA  
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S. D.  
Rocklin, CA  
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T. R.  
Santa Fe, NM  
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E. W.  
Batesville, VA  
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M. G.  
Franklin, MA  
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K. D.

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J. C.

San Francisco, CA  
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M. L.

Riverside, CA  
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J. F.

Port Saint Lucie, FL  
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L. K.

Baton Rouge, LA  
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P. S.

Holtville, CA  
February 22, 2014  
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G. P.

Chicago, IL  
February 22, 2014  
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J. C.

Death Valley, CA  
February 22, 2014  
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J. S.

February 22, 2014  
Signature # 228

M. C.

Carson, CA  
February 22, 2014  
Signature # 227

M. R.

Weyauwega, WI  
February 22, 2014  
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H. H.

Annapolis, MD  
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P. M.

Seattle, WA  
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J. S.

Encino, CA  
February 22, 2014  
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M. S.

Placentia, CA  
February 22, 2014  
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M. M.

February 22, 2014  
Signature # 221

M. H.

Joshua Tree, CA  
February 22, 2014  
Signature # 220

M. P.

February 22, 2014  
Signature # 219

R. G.

Sacramento, CA  
February 22, 2014  
Signature # 218

E. R.

Joshua Tree, CA  
February 22, 2014  
Signature # 217

H. B.

Memphis, TN  
February 22, 2014  
Signature # 216

L. W.

Spokane, WA  
February 22, 2014  
Signature # 215

J. V.

Ridgecrest, NC  
February 22, 2014  
Signature # 214

B. P.

Lapeer, MI  
February 22, 2014  
Signature # 213

B. T.

Boston, MA  
February 22, 2014  
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J. G.

Orlando, FL  
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E. R.

February 22, 2014  
Signature # 210

A. L.

Pittsburg, CA  
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Signature # 209

J. N.

Pioneertown, CA  
February 22, 2014  
Signature # 208

T. S.

Mckinleyville, CA  
February 22, 2014  
Signature # 207

J. T.

Antioch, CA  
February 22, 2014  
Signature # 206

K. M.

Felton, CA  
February 22, 2014  
Signature # 205

T. W.

Barrington, NJ  
February 22, 2014  
Signature # 204

T. A.

Amelia, OH  
February 22, 2014  
Signature # 203

V. C.

Palm Springs, CA  
February 21, 2014  
Signature # 202

M. C.

Austin, TX  
February 21, 2014  
Signature # 201

J. E.  
Littleton, CO  
February 21, 2014  
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M. B.  
Knoxville, TN  
February 21, 2014  
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W. M.  
Washingtonville, NY  
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K. B.  
Kent, WA  
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L. C.  
Philomath, OR  
February 21, 2014  
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S. T.  
Apex, NC  
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H. T.  
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T. S.  
Carmichael, CA  
February 21, 2014  
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A. S.  
Vernon, AZ  
February 21, 2014  
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S. N.  
Frederick, MD  
February 21, 2014  
Signature # 191

J. B.  
Oklahoma City, OK  
February 21, 2014  
Signature # 190

L. B.  
El Cajon, CA  
February 21, 2014  
Signature # 189

J. H.  
Palm Desert, CA  
February 21, 2014  
Signature # 188

Q. L.  
February 21, 2014  
Signature # 187

P. S.  
Issaquah, WA  
February 21, 2014  
Signature # 186

J. A.  
North Fork, ID  
February 21, 2014  
Signature # 185

D. B.  
Barnhart, MO  
February 21, 2014  
Signature # 184

W. L.  
Portland, OR  
February 21, 2014  
Signature # 183

T. G.  
Monument, CO  
February 21, 2014  
Signature # 182

J. M.  
Dayton, TN  
February 21, 2014  
Signature # 181

S. M.  
February 21, 2014  
Signature # 180

E. M.  
San Jose, CA  
February 21, 2014  
Signature # 179

S. D.  
Willmar, MN  
February 21, 2014  
Signature # 178

E. C.  
February 21, 2014  
Signature # 177

B. H.  
Mount Vernon, WA  
February 21, 2014  
Signature # 176

M. J.  
Newport News, VA  
February 21, 2014  
Signature # 175

M. M.  
Stevensville, MT  
February 21, 2014  
Signature # 174

L. T.  
Sunnyvale, CA  
February 21, 2014  
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M. P.  
Miami, FL  
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K. M.  
Bradenton, FL  
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K. M.  
Louisville, KY  
February 21, 2014  
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F. H.  
February 21, 2014  
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S. K.  
February 21, 2014  
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J. P.  
Azusa, CA  
February 21, 2014  
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G. A.  
Rosedale, NY  
February 21, 2014  
Signature # 166

H. E.  
Venice, CA  
February 21, 2014  
Signature # 165

J. M.  
Fort Myers, FL  
February 21, 2014  
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M. K.  
Willow Street, PA  
February 21, 2014  
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S. K.  
February 21, 2014  
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E. R.  
Lexington, KY  
February 21, 2014  
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B. W.  
Elgin, IL  
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H. T.  
Stoddard, NH  
February 21, 2014  
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G. A.  
Carbondale, CO  
February 21, 2014  
Signature # 158

R. W.  
Mattoon, IL  
February 21, 2014  
Signature # 157

T. S.  
Colorado Springs, CO  
February 21, 2014  
Signature # 156

C. H.  
Ocean View, HI  
February 21, 2014  
Signature # 155

B. B.  
Ridgecrest, CA  
February 21, 2014  
Signature # 154

A. B.  
San Diego, CA  
February 21, 2014  
Signature # 153

S. C.  
Twentynine Palms, CA  
February 21, 2014  
Signature # 152

D. B.  
Ridgecrest, CA  
February 21, 2014  
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S. B.  
Pioneertown, CA  
February 21, 2014  
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J. H.  
National City, CA  
February 21, 2014  
Signature # 149

M. R.  
Apple Valley, CA  
February 21, 2014  
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S. G.  
Apple Valley, CA  
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A. G.  
Fullerton, CA  
February 21, 2014  
Signature # 146

G. K.  
Long Beach, CA  
February 20, 2014  
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A. B.  
February 20, 2014  
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E. P.  
Auburn, CA  
February 20, 2014  
Signature # 143

J. W.  
February 20, 2014  
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J. M.  
February 20, 2014  
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M. C.  
Reseda, CA  
February 20, 2014  
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G. H.  
February 20, 2014  
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L. A.  
Ipswich, SD  
February 20, 2014  
Signature # 138

M. S.  
February 20, 2014  
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S. Y.  
Matawan, NJ  
February 20, 2014  
Signature # 136

B. H.  
Beverly Hills, CA  
February 20, 2014  
Signature # 135

A. W.  
Independence, CA  
February 20, 2014  
Signature # 134

L. B.  
San Francisco, CA  
February 19, 2014  
Signature # 133

A. R.  
Seattle, WA  
February 19, 2014  
Signature # 132

T. F.  
Santa Barbara, CA  
February 19, 2014  
Signature # 131

S. F.  
El Cerrito, CA  
February 19, 2014  
Signature # 130

N. M.  
Independence, CA  
February 19, 2014  
Signature # 129



J. Z.  
Tampa, FL  
February 19, 2014  
Signature # 128

D. C.  
Desert Center, CA  
February 19, 2014  
Signature # 127

S. C.  
Walnut Creek, CA  
February 19, 2014  
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R. S.  
Riverside, CA  
February 19, 2014  
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J. B.  
Frederick, MD  
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C. P.  
Phoenix, AZ  
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R. T.  
Morongo Valley, CA  
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R. B.  
Palm Springs, CA  
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I. W.  
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S. B.  
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R. G.  
Fargo, ND  
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T. W.  
San Diego, CA  
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G. S.  
Sacramento, CA  
February 19, 2014  
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I. A.  
Los Angeles, CA  
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M. A.  
Claremont, CA  
February 19, 2014  
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C. H.  
Bishop, CA  
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J. F.  
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R. S.  
Oakland, CA  
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J. A.  
Baker, CA  
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T. B.  
Los Angeles, CA  
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T. L.  
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M. R.  
Chino, CA  
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R. K.  
Barstow, CA  
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J. M.  
Las Vegas, NV  
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Signature # 104

R. C.  
Salt Lake City, UT  
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G. S.  
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R. M.  
Hinkley, CA  
February 19, 2014  
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A. N.  
Tecopa, CA  
February 19, 2014  
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D. S.  
Lafayette, CO  
February 18, 2014  
Signature # 99

E. L.  
Wrightwood, CA  
February 18, 2014  
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J. P.  
Long Beach, CA  
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R. B.  
Newberry Springs, CA  
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W. B.  
Bishop, CA  
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P. V.  
Kent, WA  
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M. P.  
Lone Pine, CA  
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S. P.  
Bishop, CA  
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J. J.  
Santa Cruz, CA  
February 18, 2014  
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P. F.  
Twentynine Palms, CA  
February 18, 2014  
Signature # 90

N. G.  
Las Vegas, NV  
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C. S.  
Twentynine Palms, CA  
February 18, 2014  
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M. K.  
Sterling Heights, MI  
February 18, 2014  
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V. C.  
Altamonte Springs, FL  
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J. C.  
February 18, 2014  
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T. D.  
Portland, OR  
February 18, 2014  
Signature # 84

V. R.  
Rochester, NY  
February 18, 2014  
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E. C.  
Las Vegas, NV  
February 18, 2014  
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L. N.  
Palo Alto, CA  
February 18, 2014  
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R. M.  
Arcata, CA  
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J. K.  
Las Vegas, NV  
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D. J.  
Bloomington, IN  
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J. F.  
Provo, UT  
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D. L.  
Barstow, CA  
February 18, 2014  
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L. T.  
Joshua Tree, CA  
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M. R.  
Independence, CA  
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G. F.  
Flagstaff, AZ  
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L. H.  
East Lansing, MI  
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J. P.  
Shoshone, CA  
February 18, 2014  
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M. I.  
La Palma, CA  
February 18, 2014  
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C. D.  
Joshua Tree, CA  
February 18, 2014  
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J. G.  
February 18, 2014  
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P. H.  
New York, NY  
February 18, 2014  
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T. H.  
Mancos, CO  
February 18, 2014  
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L. K.  
Vista, CA  
February 18, 2014  
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W. B.  
Clearlake, CA  
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E. F.  
Redwood City, CA  
February 18, 2014  
Signature # 63

D. W.  
La Mesa, CA  
February 18, 2014  
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Y. M.  
Corvallis, OR  
February 18, 2014  
Signature # 61

M. D.  
Mount Hermon, CA  
February 18, 2014  
Signature # 60

C. D.  
Joshua Tree, CA  
February 18, 2014  
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S. A.  
Emeryville, CA  
February 18, 2014  
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B. S.  
Emeryville, CA  
February 18, 2014  
Signature # 57



E. P.  
Santa Barbara, CA  
February 17, 2014  
Signature # 56

R. S.  
Chicago, IL  
February 17, 2014  
Signature # 55

K. S.  
Los Angeles, CA  
February 17, 2014  
Signature # 54

K. B.  
San Diego, CA  
February 17, 2014  
Signature # 53

I. H.  
Vista, CA  
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Signature # 52

L. H.  
February 17, 2014  
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W. S.  
Ann Arbor, MI  
February 17, 2014  
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T. E.  
Ojai, CA  
February 17, 2014  
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M. V.  
Rancho Cucamonga,  
CA  
February 17, 2014  
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J. G.  
Joshua Tree, CA  
February 17, 2014  
Signature # 47

D. S.  
Laguna Beach, CA  
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A. J.  
Fresno, CA  
February 17, 2014  
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M. K.  
Fresno, CA  
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T. R.  
San Pedro, CA  
February 17, 2014  
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G. P.  
Altadena, CA  
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L. C.  
Beatty, NV  
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K. T.  
Joshua Tree, CA  
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K. E.  
Beatty, NV  
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J. K.  
Altadena, CA  
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T. O.  
Joshua Tree, CA  
February 17, 2014  
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Y. H.  
Los Angeles, CA  
February 17, 2014  
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J. B.  
Henderson, NV  
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A. L.  
Sausalito, CA  
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T. M.  
Cloverdale, CA  
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R. F.  
Syracuse, NY  
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K. D.  
Springfield, OR  
February 17, 2014  
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J. F.  
Los Angeles, CA  
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D. K.  
Durham, NC  
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Signature # 29

H. H.  
Coeville, CA  
February 17, 2014  
Signature # 28

L. R.  
Marlow, NH  
February 17, 2014  
Signature # 27

S. G.  
Washington, DC  
February 17, 2014  
Signature # 26

K. S.  
Fayetteville, NC  
February 17, 2014  
Signature # 25

B. B.  
February 17, 2014  
Signature # 24

R. M.  
Redwood City, CA  
February 17, 2014  
Signature # 23

M. H.  
Binghamton, NY  
February 17, 2014  
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P. B.  
Glendora, CA  
February 17, 2014  
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E. M.  
Pasadena, CA  
February 17, 2014  
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S. D.  
Rancho Mirage, CA  
February 17, 2014  
Signature # 19

S. K.  
February 17, 2014  
Signature # 18

E. M.  
Nevada City, CA  
February 17, 2014  
Signature # 17

L. A.  
Monterey Park, CA  
February 17, 2014  
Signature # 16

B. S.  
February 17, 2014  
Signature # 15

D. F.  
Joshua Tree, CA  
February 17, 2014  
Signature # 14

J. R.  
San Diego, CA  
February 17, 2014  
Signature # 13

P. E.  
Ocotillo, CA  
February 17, 2014  
Signature # 12

E. H.  
Los Angeles, CA  
February 16, 2014  
Signature # 11

L. N.  
Sonoma, CA  
February 16, 2014  
Signature # 10

J. S.  
Boulder Creek, CA  
February 16, 2014  
Signature # 9

D. S.  
Sacramento, CA  
February 16, 2014  
Signature # 8

E. B.  
February 16, 2014  
Signature # 7

D. C.  
February 16, 2014  
Signature # 6

H. R.  
February 16, 2014  
Signature # 5

C. C.  
Joshua Tree, CA  
February 16, 2014  
Signature # 4

E. P.  
February 13, 2014  
Signature # 3

R. S.  
Upland, CA  
February 13, 2014  
Signature # 2

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## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Monday, March 03, 2014 8:51 AM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: soda mtn solar project coment

Jeffery K. Childers  
Project Manager  
RECO California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553  
Cell: 951-807-6737

----- Forwarded message -----

**From:** Terry Young <[rasorroadservice@yahoo.com](mailto:rasorroadservice@yahoo.com)>  
**Date:** Sat, Mar 1, 2014 at 9:58 AM  
**Subject:** soda mtn solar project coment  
**To:** "jchilders@blm.gov" <[jchilders@blm.gov](mailto:jchilders@blm.gov)>, "ksymons@blm.gov" <[ksymons@blm.gov](mailto:ksymons@blm.gov)>, "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

To Whom It may Concern

My name is Terry Young and I have owned and operated the Razor Road Service station in the Soda Mountains area for over 30 years. The station itself has been in operation for over 80 years, My family and I also own property in the OHV area known as Razor Ranch. During that time I have witnessed many changes to the community and the area.

Over the years I have owned this business, I have seen how the small town of Baker has changed, and not for the better. As you know, Baker is entirely dependent on servicing the 60-70,000 cars and trucks that drive through the area daily on the 15 freeway (this is also the base for my business) that stop for gas or food on their way to or from Las Vegas. This business is dependent on the state of the economy, if people have money to spend on a weekend away, and produces low-wage unskilled jobs like food service jobs, that do not encourage sustainable growth in the local economy.

It's not healthy for a town to be so dependent on low-wage, unskilled work. I'd like to see some economic activity in the area that would support skilled labor.

The introduction of the Mojave Preserve in the 90s was a positive thing for the wildlife in the area. The downside is that the ranching and living from the land that occurred there has now ended, bringing with it the end of a way of life in the desert. There has to be some relationship between the people who live here and the land to support our small economy.

Soda Mountain Solar, which is proposed for the area adjacent to my property and business, would bring in large numbers of construction workers to the area for the 2-3 year period required to build the project. Hopefully, some of these workers would be hired or trained through apprenticeships from the local area. Importantly, though, the majority of the ongoing operations and maintenance jobs could be held by local residents. Even though it's a relatively modest number of jobs--I've heard a couple of dozen--even a small number of well-paying jobs in this community, especially jobs with long-term commitments like a solar plant, could help lift our local economy and improve the quality of life in the town.

It seems like there is a certain amount of conflict between various groups who love the desert for different reasons. I see people who love the Preserve come through, as well as the OHV community which I am a member of, and the laborers from Ivanpah who are driving downhill after work. I think these different uses can live side by side, and can coexist without ruining the experience of the desert for each other. The solar plant will only be visible from a remote corner of the Preserve, which overlooks the 15 and the transmission towers as well. The people who use the OHV area will still be able to access it and enjoy their recreation there. I will continue to offer the services here at Razor Road that have been available for over 80 years.

I think the people who would prevent this project from being built here are looking at the land through rose colored glasses and choosing not to see the freeway, the transmission towers, the mines, etc. They just don't want to see anything built in the desert, period. But that's not going to help our community and the people who live here, who need green energy projects like Soda Mountain to maintain their communities and economy.

Thank you.

Terry Young  
President Beacon Station Inc DBA :Razor Road Service  
760-733-4347  
[rasorroadservice@yahoo.com](mailto:rasorroadservice@yahoo.com)

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:09 AM  
**To:** Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Soda Mountain Solar Att: Jeffery Childers

----- Forwarded message -----

**From:** <[ALPrice2@aol.com](mailto:ALPrice2@aol.com)>  
**Date:** Sun, Mar 2, 2014 at 10:29 PM  
**Subject:** Soda Mountain Solar Att: Jeffery Childers  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)  
**Cc:** [slall@marathon-com.com](mailto:slall@marathon-com.com)

March 2,2014

My name is Ann Price. I am a life long resident of Baker, California. I am also a business owner in the community. Many years ago, my great, great grandfather, "Dad" Fairbanks, was the first business owner and founder of Baker. He started selling gas out of 55 gallon drums to travelers on what is now Baker Blvd. Members of my family have been here ever since.

You might say I have a vested interest in this desert and the East Mojave and the community of Baker. In the 60 years I have lived here I have seen many changes to Baker but our economy has always been dependent on the traffic moving along the highway to Las Vegas. That traffic is based on a healthy national economy. Many of our businesses have closed in the last few years and many people have relocated looking for jobs.

The Soda Mountain Solar Project will bring prosperity to Baker. The project will bring construction jobs as well as long term, well paying jobs to the community. It will bring families into Baker and this will benefit our schools and businesses. Our community can certainly benefit from the economic boost this project would provide.

I am a great advocate of solar power and I think the travelers along Interstate 15 would be amazed to find themselves traveling through a solar field near Baker. I believe the solar projects along the Interstate 15 corridor from Barstow into Nevada can only enhance a trip through the East Mojave.

Ann Price  
Baker, California



2 March 2014

Bradford W. Berger  
PO Box 142  
Pioneertown, CA 92268  
760-228-0738

Mr. Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Dear Mr. Childers:

Please consider this letter as my comments and suggestions regarding the Draft Environmental Impact Statement (DEIS) for the Soda Mountain Solar Project.

There are several issues I feel are of major concern:

- 1) The applicant states that the project will be built on land that is sparsely vegetated. This appears to be an attempt to justify the suitability of the land for the project. My concern is that however sparsely vegetated the site may be, most of it is naturally vegetated and pristine – certainly in good enough condition to warrant mention of unavoidable impact to bighorn, desert kit fox and American badger. If the project moves forward, the loss in habitat should be mitigated with at least an equal acreage set aside that is protected from development.
- 2) The applicant claims to need 33 acre-feet of water per year to maintain the site. This water, equivalent to nearly 11 million gallons per year is excessive. Considering this project and other potential projects such as Cadiz, and the Silurian Valley solar array there is a real possibility of a major drop in the water level of area aquifers. No well permit should be granted.
- 3) The land adjacent to the freeway is a very good location for the solar panels, but should not be allowed to extend more than 1/2 mile from either side of the freeway. This would keep the solar array within the damage footprint of the roadway. The fact that the project would be adjacent to the Mojave National Preserve really points toward minimizing the affected landscape.
- 4) Although it is far-sighted to put forward a plan to decommission the site when the project's 30-40 year life span is over, it is unknown who will actually control the site after that time. An escrow fund should be created with constant deposits being necessary to maintain a permit to use the site. The full amount required to restore the site should be in place after no more than 5 to 10 years.

I appreciate your concern in this matter and look forward to reviewing the Final EIS. Please keep me informed about this project using the address listed above.

Sincerely,  
Bradford W. Berger

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:11 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Relocate the Soda Mountain Solar Project and Protect the Mojave National Preserve

----- Forwarded message -----

**From:** Chris Lish <[lishchris@yahoo.com](mailto:lishchris@yahoo.com)>  
**Date:** Sun, Mar 2, 2014 at 6:01 PM  
**Subject:** Relocate the Soda Mountain Solar Project and Protect the Mojave National Preserve  
**To:** "[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)" <[sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)>

Sunday, March 2, 2014

Attn: Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Subject: Relocate the Soda Mountain Solar Project and Protect the Mojave National Preserve

Dear Soda Mountain Solar Project Manager Jeffery Childers,

Bechtel proposes to build the Soda Mountain Solar Project on 4,179 acres of public land adjacent to Mojave National Preserve, threatening the resources and landscape of this treasured unit of the National Park System. The Soda Mountain Solar Project would be located one quarter of a mile away from Mojave National Preserve and be one of the closest—if not the closest—industrial scale renewable energy projects to a national park unit in the entire southwestern United States.

*"Our duty to the whole, including to the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose and method."*  
-- Theodore Roosevelt

The environmental impacts of the Soda Mountain Solar Project include decreased spring discharge at Zzyzx, loss of high-quality desert tortoise habitat, increased habitat fragmentation for desert bighorn sheep, and loss of wildlife connectivity with nearby wilderness areas. The project also threatens water quality and quantity at Mohave Chub Spring in the Mojave National Preserve, the home of the federally endangered tui chub—one of our rarest desert fish. And the project will obstruct dramatic views into the Preserve and degrade the dark skies experience of the park's 550,000 annual visitors.

*"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish—indeed, all the living creatures of prairie and woodland and seashore—from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."*  
-- Theodore Roosevelt

I urge you to work to relocate the Soda Mountain Solar Project to an area where it does not harm our national park units, natural resources, archaeological sites, or desert communities. At last count, the California desert alone has over one million acres of disturbed lands or previously developed lands that may be more appropriate for solar panels and associated development. Additionally, I respectfully request a 60 day extension on the public comment period to further analyze alternative locations for this project.

*"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."*  
-- Aldo Leopold

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,  
Christopher Lish  
Olema, CA

## Soda Mountain Solar Project Draft PA/EIS/EIR Comments

March 2<sup>nd</sup>, 2014

Mr. Jeff Childers  
Project Manager  
BLM California Desert District  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Sent by email: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Dear Mr. Childers,

I am writing as a concerned citizen scientist to provide public comments in regards to the Draft Environmental Impact Statement (EIS) for the Soda Mountain Solar Project, which proposes the development of a 358-megawatt solar energy plant by Soda Mountain Solar, LLC, in San Bernadino County, California. I appreciate the BLM's efforts to analyze seven alternatives, outlined in the EIS to explore the environmental impacts and potential consequences of constructing a solar energy generating facility on public lands, to capture sustainable energy resources in the Mojave Desert region.

The issues I am concerned about in the EIS relate to the impacts that a solar energy facility will have on the desert habitat and ecosystem function, the effects that the change in land use will have on local wildlife populations and water resources, the ecological processes of wildland fires in the desert and new hazards that a plant could pose, as well as the change in visual resources of the landscape that may affect the public's enjoyment of the desert. Solar energy collected via panel system arrays seems to require a substantial amount of change in land use and could present new disturbances to human and animal communities. A large amount of land space is required and water resources become valuable in the high demand to clean panels for efficiency. Connectivity for plants and animals that use the area could become stunted. There may be a change in their habitat and food resources and in some cases the appearance of new resources, attracting them to the area where threats to their safety could occur. The reflectivity and lighting produced by the panel arrays will change the way in which the environment is viewed by people and animals. Risks of accidental fire may become elevated in the area with energy facilities, transformers, etc. Choosing to build a solar plant in the desert seems efficient from the perspective of maximizing energy capture from sunlight, however not efficient in its use of water, which is a very limited resource in sensitive desert environments. Large scale changes in this sensitive desert environment from construction and solar panel application would without a doubt have direct impacts and significant negative effects to natural ecological processes and animal behavior.

Significant effects were listed in Table ES-2 in the EIS for impacts to Vegetation, Wildlife, Visual Resources, Water Resources, and Wildland Fire Ecology. I found that the EIS did list intelligent suggestions for mitigation measures in these areas I was concerned with about wildlife and also addressed my concerns to issues with water use and fire safety from the applicant proposed measure (APM's). Measures to protect wildlife from the proposed brine pools and limit the amount light disturbance satisfied my concerns that potential changes to the environment which attracted wildlife were considered in the APM's as well. In the case of wildlife, I felt that the EIS addressed the impacts to desert tortoise, burrowing owls, and big horn sheep with good background research collected from well-developed protocols from agencies to collect baseline information. However, I felt that the EIS did not address bat species with this same manner and may be inadequate in assessment of potential impacts and disagree with statement that the level of risk to special-status bats is low, but agree that the level of potential risk to bats would remain during the life of the solar project. According the Biological Technical Resources Report provided Appendix E-1, section 2.2.8 Bats: only one acoustic survey was conducted in the fall of 2012, for 3-4 nights at six locations. The acoustic monitoring should be able to identify bat species that use the area and provide information on seasonal use. **I do not feel that one acoustic survey conducted once could establish adequate information for the EIS on the three species of BLM "(S) sensitive" concern for bats and their use of the actual project area.** The Biological Technical Resources Report Results (Table 3.3-1) lists high potential of presence in the project area for the Pallid bat and Townsend's big-eared bat, both species were found roosting in nearby mines during the roost survey, but not detected at the time of the acoustic survey, due to the time of year

being during their hibernation period. However, details in the habitat column of that table mention that these species would probably forage in the project site area, and could certainly fly to forage in the project area based on the data available about their flight movements. I would like to recommend that more research and monitoring be conducted in the area of biological resources as it pertains to local bat species. If these species are difficult to detect acoustically, as the Results section of the Biological Resources Technical Report suggests (pages E. 1-77, 1-78), then other suitable methods should be used to gather information about bat use of the project site, such as mist netting or radio tracking of bats found in nearby mines. I am grateful to the BLM for their consideration of the impacts that potential changes in foraging and behavior for bats in the project site and the collision aspects which they addressed in the EIS. We know that food resources could be affected for bats in the project area, with possible attraction to the site by a potential increase in insect prey brought in by lights and landscape changes such as brine ponds. And we know that there is potential for bats to be attracted to the reflection of light on the solar panel arrays and mistake it for water, and thus create collision hazards. For example, in table 3.4-2 Special Status Wildlife Known to Occur with Potential to Occur in the Study Area, both the pallid bat and the western mastiff bat are listed as a species found dead or injured as reported in ongoing monitoring data from solar projects under construction in the Sonoran and Mojave Deserts, yet I did not see any detailed information on fatality studies expanded upon with respect to those bat species or any other bat species specifically mentioned in the EIS. I did not see the western mastiff bat mentioned in the Biological Resources Technical Report either. The EIS seemed to only state general trends found in birds and bat fatality evidence. I do agree with the EIS “that direct and indirect construction-related impacts to special-status bats would be avoided and minimized by implementation of Mitigation Measures” (pg. 3.4-38) and recognize the importance of having the applicant adopt and implement a Bird and Bat Conservation Strategy (pg. 3.4-42). However, I believe that better baseline studies and use of post-construction monitoring results would be more informative in assessing potential impacts before they occur. An evaluation that states “Because no additional feasible mitigation has been identified, potential risks to special-status bat species would remain during Project operation and maintenance” and “under the cumulative scenario, construction monitoring results...strongly indicate that ongoing, unmitigated risks will remain at most solar facilities” and “the cumulative impact to special status bats would remain” is disheartening to long term conservation of bats, and should be remedied with better research into the cumulative and possibly additive effects of solar energy facilities.

After reviewing the statement, data sources in the appendices, and seven alternatives, I would recommend that the BLM choose an alternative that limits the amount of direct habitat destruction and loss of vegetation, lessens the impacts to wildlife connectivity and collision, and requires the least amount of local water resources. I think this could be accomplished with an alternative that had a smaller number of arrays and a reduced effect to species, such as alternatives B or C.

I understand the inherent difficulty of balancing land use for the public interest and need; our country must find the best methods possible to harvest renewable energy sources in a sustainable manner, while minimizing damage to sensitive habitats and ecosystem functions, and considering the adverse impacts our decisions will make to wildlife species and limited resources like water. My main concerns as a citizen scientist, are that environmental impacts to wildlife populations (especially those that are in decline), mainly with respect to birds and bats, caused by these technologies of harvesting “green” energy (such as solar and wind) are still not well understood. We need more research and monitoring to truly evaluate what kind of disturbances these structures create to wildlife behavior. We depend on our state and national agencies to assist in regulating our natural resources while protecting our varied interests in the environment, and I can see that effort clearly presented and analyzed by the BLM in this EIS, in the reflection of a variety of alternatives that scale the impacts presented by offering different solar panel array installation plans. I hope that my comments will assist the BLM choosing the most appropriate alternative for the Soda Mountain Solar Project.

Thank you for your consideration of my comments,

Corinna A. Pinzari

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Monday, March 03, 2014 9:10 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: This member of the public's concerns regarding the proposed Soda Mtns. Solar project.

----- Forwarded message -----

**From:** Doug Peeler <[dlpeeler@earthlink.net](mailto:dlpeeler@earthlink.net)>  
**Date:** Sun, Mar 2, 2014 at 6:36 PM  
**Subject:** This member of the public's concerns regarding the proposed Soda Mtns. Solar project.  
**To:** [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

My concerns regarding this project are the same as my concerns for all setting aside of BLM land, for whatever reason, that it may limit public access for recreational purposes, especially rock collecting.

I started collecting minerals when I was 7 years old, as part of family vacation and camping trips. This hobby proved to be good clean fun the whole family could get into and enjoy. I don't know what my parents, 4 siblings, and I would have done if we were met with road closures and huge fenced off areas everywhere we turned to look for rocks or go to a published collecting site. We might have been so discouraged that I soured on rock collecting and never chose to study geology as a career path. At a time when it is observed that young people need to have more good clean pursuits, get exercise, and not just sit behind computers and smart phones day in and day out, limiting opportunities for getting out into nature on public lands is not helping things at all.

Please realize also that the largest number of existing rock/mineral collectors are the parents and other middle aged people, whose children are grown or are now retired, and are looking to stay active and enjoy the camaraderie of other collecting, camping, and outdoors enthusiasts. This group of people is far larger than you may know based on the correspondence you receive from active memberships of mineral and gem clubs of this country; a group I know has been under represented at your poorly advertised "public outreach" meetings. Most of the public just has no idea of what is being done or that their access could be greatly limited.

Please assure that the land set aside for this project, and for other public land management projects, provides reasonable access for young future geologists-to-be as well as current collecting enthusiasts. My suggestion is that you look hard at providing for personal and group collecting permits, as is already done for hunting or fishing, that can be easily applied for and affordable, that will allow access to BLM lands and access roads for the designated purposes. Other countries already have similar permitting vehicles for their citizenry, this country can certainly improve on their lead.

Thank You for your time and consideration of the concerns I have given here.

Respectfully,



Doug Peeler, CA-registered Professional Geologist/Consultant

San Diego, CA 92117

[dlpeeler@earthlink.net](mailto:dlpeeler@earthlink.net)

619-244-0757 Mobile



This email is free from viruses and malware because [avast! Antivirus](#) protection is active.

## Alexandra Kostalas

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**From:** Childers, Jeffery <jchilders@blm.gov>  
**Sent:** Monday, March 03, 2014 8:53 AM  
**To:** Janna Scott; Alexandra Kostalas; Michael Manka; Soda Mountain Project EIS-EIR  
**Subject:** Fwd: Comment on the proposed Soda Mountain Solar Project

Jeffery K. Childers  
Project Manager  
RECO California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553  
Cell: 951-807-6737

----- Forwarded message -----

From: **Richard Haney** <[rfhaney@gmail.com](mailto:rfhaney@gmail.com)>  
Date: Sun, Mar 2, 2014 at 9:59 PM  
Subject: Comment on the proposed Soda Mountain Solar Project  
To: Jeffrey Childers <[jchilders@blm.gov](mailto:jchilders@blm.gov)>

Dear Mr. Childers,

I am writing to provide comment in response to the BLM's Notice of Availability for the Soda Mountain Solar Project's Draft California Desert Conservation Area Plan Amendment and a Draft EIS/EIR.

I am opposed to the Soda Mountain Solar Project's currently proposed location for several reasons. And there is also a need to give serious consideration for distributed solar generation as an alternative.

First of all, the project is located not only too close to the Mojave National Preserve, but also too close to I-15. The deep spiritual values of the natural landscape -- as derived from the view -- will be destroyed not only for visitors to the Mojave National Preserve and but also especially for people driving along I-15. Visiting Las Vegas from the more western areas of southern California will become a progressively uglier and uglier experience because of the destruction of the natural landscape.

At the very least, the comment period should be extended 60 days and the BLM should hold public meetings in Las Vegas, NV, since the project will especially impact Las Vegas via impacts on visitors to Las Vegas and also impact residents of Las Vegas who consider the Mojave National Preserve a prize jewel for the area.

And at the very least, the project proposal should include alternative locations in solar zone(s) under the Solar Programmatic Environmental Impact Statement developed by the Department of the Interior.

Moreover, the need for jobs can be satisfied at least as well by alternatives not included in the Draft Amendment and Draft EIS/EIR, and for some alternatives, the need may be satisfied far better.

Yours truly,

Richard Haney  
61843 Terrace Drive  
Joshua Tree, CA 92252

## Alexandra Kostalas

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**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, March 05, 2014 7:47 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Not on "virgin" land

----- Forwarded message -----

From: **barry grady** <[barrygrady@rocketmail.com](mailto:barrygrady@rocketmail.com)>  
Date: Mon, Mar 3, 2014 at 1:09 PM  
Subject: Not on "virgin" land  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

Dear Jeffery Childers,

We own desert property far east of Barstow and therefore drive through the Mojave and are familiar with the terrain and territory. Most Californians don't venture into the desert often and see it as "vacant" land, suitable for landfills, mines, giant solar generation farms, and other enterprises that can remain out of sight of the suburbs..

We see giant transmission lines criss-crossing the landscape we love. We view them as unattractive but not grossly invasive. However, when the landscape is "cleared" for a large land-based installation, the vegetation will not grow back and there is a real risk of blowing dust and erosion, such as happened at Owens [former] Lake.

Our desert ranch is 25 miles from any electrical lines and we generate our own power with photovoltaics, so we know something about how it works. We also know that electricity doesn't work as well traveling over great distances. This project reflects old-school thinking of giant single-source power plants at great remove from where demand is.

We believe more locally generated solar power would be:

1. More economical, in terms of site preparation, construction and road building, materials, and transportation costs. Installations could be placed on multiple sites -- large [state-owned?] rooftop arrays as we have at the downtown Los Angeles Department of Water & Power bldg. -- close to where the need is.
2. Better for protecting our public land and the animals and plants that manage to survive there -- even if they can't easily be seen. The desert is not empty and should be respected as much as a lake or forest. It will be ruined.

Please do not proceed with this proposed project.

Please continue to pursue multiple alternative energy projects closer to where it will be used.

Thank you,  
Barry & W.K. Grady

Dear Mr. Childers,

I attended the public meeting for the Soda Mountain Solar Project on January 8, 2014. As a member of the International Union of Operating Engineers, I attended in support of the project. Unions have an interest in supporting construction projects that will result in work for their members of course. I think it is important to recognize that union members also have strong feelings about what kind of projects should be built. We want to see projects that benefit the economy and the environment both projects that produce green energy, without also harming the air and water of the Mojave Desert.

What kind of project will be proposed if the so-called environmentalist have their way and this project is not built? Will we build a nuclear plant, another coal fired plant or start fracking for natural gas? What kind of impact would there be on the environment if we build those kind of energy production facilities? I think the impact of projects like Soda Mountain should be compared to the traditional energy production to get a better idea of its real impacts.

At the January meeting the representative from Bechtel explained that the site had been selected because of existing infrastructure and the freeway. It just makes sense to put a solar plant with transmission and transportation already there on the site.

Thank you,

A handwritten signature in black ink, reading "Carl Mendenhall". The signature is written in a cursive, flowing style.

Carl Mendenhall



# Ironworkers Local 433

International Association of Bridge, Structural &  
Ornamental Iron Workers A.F.L.-C.I.O.

252 W. HILLCREST AVENUE

SAN BERNARDINO, CALIFORNIA 92408

PHONE: (909) 884-5500

FAX: (909) 885-0047

gabevillarreal433@yahoo.com

**GABRIEL "GABE" VILLAREAL**

Business Agent

March 3, 2014

My name is Gabriel Villarreal, and I attended the public meeting held in January regarding the Soda Mountain Solar project to represent the Ironworkers Local 433.

As a Union Member and a resident of the desert, I have personal knowledge of the site and also of the effects of solar development on the community and on the Union.

For us here in the desert, we have to find some kind of balance between our economy and conservation. I have heard people criticize it, but for us in the trades, Ivanpah, The Genesis and The Abengoa were a life saver. People were losing their homes, and times were really tough with 50% unemployment in construction which equaled over 4000 workers just in the Inland Empire. Our members are still recovering from a long slump, and need projects like Soda Mountain and many others to move forward.

Having said that, I understand how much people love the wilderness at the Soda Mountain site because I visited that area for over ten years. I camp at the backside of the Razor Road OHV area which is approximately 6 miles east away from the 15 freeway and the project.

I understand that people love to visit the OHV area, because I am one of those people, and I don't think that building a solar plant close to the freeway will affect my experience of visiting Razor Road. I think this project is located in a way that keeps it close to the freeway and away from areas that people want to enjoy.

I support the project and respectfully ask that the project be approved.

Sincerely,

Gabriel Villarreal  
Business Agent



## Alexandra Kostalas

---

**From:** jchilders@blm.gov on behalf of Soda\_Mtn\_Solar, BLM\_CA  
<blm\_ca\_soda\_mtn\_solar@blm.gov>  
**Sent:** Wednesday, March 05, 2014 7:49 AM  
**To:** Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka  
**Subject:** Fwd: Soda Mountain Solar (CACA 49584) biological soil crust comment

----- Forwarded message -----

From: **Michael Garabedian** <[michaelgarabedian@surewest.net](mailto:michaelgarabedian@surewest.net)>  
Date: Mon, Mar 3, 2014 at 4:51 PM  
Subject: Soda Mountain Solar (CACA 49584) biological soil crust comment  
To: [sodamtnsolar@blm.gov](mailto:sodamtnsolar@blm.gov)

To: Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

I have a B.S. Forestry and Conservation that included soils class and soils field work, I took the mid-February 2013 Bureau of Land Management, National Training Center class including field instruction in the Las Vegas warm desert, "Biological Soil Crust: Ecology and Management" NTC 1730-41, and I have attended Ecological Society of America and Society for Conservation Biology conference panels on BSCs.

All desert soils have biological crusts at various degrees of diversity, including sandy soils of cryptograms, cyanobacteria, fungi, lichens, mosses, algae, etc.

1. All activities including the project and preparation for it should avoid any destruction or damage to Biological Soil crusts (BSCs) including walking.
2. The entire project site including at least a several hundred foot buffer around it including across roads and highways, and all areas of any offsite development part of or serving the project must be investigated and surveyed for biological soil crusts (BSCs).
3. The investigation must be conducted by someone qualified to do so and with experience doing so in the Mojave or a basically equivalent warm desert that does not have seasonal freezing.
4. Sampling techniques unique to BSCs must be used. Transects used for vegetation are unsuitable for BSCs.
5. The person should identify BSCs
  - a. BSC classification and identification should be based on this field guide to BSCs or an equivalent source: "A Field Guide to Biological Soil Crusts of Western U.S. Drylands." at:  
<http://www.ntc.blm.gov/krc/viewresource.php?courseID=258&programArealD=149>
  - b. Samples must be kept of BSCs taken from each BSC community and from locations throughout the proposed project area. These samples should be kept and made available in the same manner that documents are made available for public review.
  - c. Micro and macro photos of each type and variety of BSC should be kept.

6. Project alternatives must be identified in the EIS for at least one area that has no BSCs and other areas that would have lesser or very little BSC disturbance. The mere fact that an area is "disturbed" to a lesser or greater extent nonetheless means that any disturbed sites must also be investigated and surveyed for BSCs. Elements of BSCs can very quickly invade disturbed soils.

7. Mapping of BSCs on and off site should follow.

8. The EIS must use the most current science to:

- a. Identify the atmospheric chemicals taken up by the BSCs including GHG and other chemicals including but not limited to carbon and nitrogen.
- b. Identify the level and composition of dust, surface and substrate materials and any other nutrients used by and tolerated by the BSCs,
- c. Identify the level, season and characteristics of disturbance including partial or full burying, if any, that the BSCs can tolerate,
- d. Identify the means and time period necessary to restore the BSCs including through inoculation,
- e. Calculate and describe the nutrients that the BSCs make available to desert vegetation, microclimates and habitat.
- f. Calculate the GHG reduction and sequestration in the BSCs and in vegetation that is dependent on BSCs to lesser and significant degrees.
- g. Compare GHG uptake and release factors for proposed and alternative project areas.

9. BLM BSC management practices should be followed and added to for specific renewable energy project BSC management.

a. The EIS must at minimum apply to this proposed project the principles and practices in the BLM BSC management manual DOI/BLM/USGS, "Biological Soil Crusts: Ecology and Management Manual,"

<http://www.ntc.blm.gov/krc/uploads/231/CrustManual.pdf>

b. BSC management unique to the needs of renewable energy development must be used to supplement the manual.

10. The EIS must develop methods and protocols to prevent BSC disturbance. Establishing "go" versus "no go" zones for where to walk is problematic. All desert soils must at least have strictly minimized trampling activity.

11. MSC benefit identification

- a. The EIS must identify ecosystem and other benefits of BSCs including holding the surface in place against wind, water, animal and human disturbance, dust prevention, prevention of water loss from groundwater, water in the soil profile and due to soil surface evaporation, soil nutrient and other enrichment, and so on.
- b. An ecosystem services value should be placed on these benefits.

Sincerely,

Michael Garabedian, Co-founder  
Committee for 245 Million Acres  
7143 Gardenvine Avenue  
Citrus Heights  
California 95621  
916-719-7296

Attention:  
Jeffrey Childers, BLM  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

**RE: Soda Mountain Solar Project Application Comment**

I recently met with a representative from the Soda Mountain Solar project. I've lived here in Baker for over 20 years, and I'd really like to know about the long-term benefits for my community.

Of course Baker would benefit in the short-term from spending by the construction workers. I understand the total number of long-term jobs is not as high but is still brings employment to the area.

I support renewable energy and think this project would be a good idea as long we can work with the developer to find community benefits and to know who to go to when we have concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Preston Hales". The signature is fluid and cursive, with a long horizontal stroke at the end.

Preston Hales  
PO BOX 15  
Baker, CA 92309  
760-899-8794 cell

March 2, 2014

Jim Kenna, Director  
California State Bureau of Land Management Office

Terri Raml, Director  
California Desert District Bureau of Land Management

Katrina Symons, Field Manager  
Barstow Bureau of Land Management Field Office

Jeffrey Childers, Planning and Environmental Coordinator  
California Desert District Bureau of Land Management

**RE- Soda Mountains Solar Project**

Dear Mr. Kenna, Ms. Raml, Ms. Symons and Mr Childers:

We comprise some of the leadership of Mojave National Preserve, Joshua Tree National Park and Death Valley National Park since their creation with passage of the California Desert Protection Act of 1994. We are proud of our public service, maintaining the public trust and dedicating our lives to the stewardship and protection of the California desert national parks' spectacular natural and cultural resources. We have a life-long covenant with the American people to protect special places for present and future generations. We respectfully request that the Soda Mountains Solar Project be relocated and that a supplemental draft EIS be published that would identify and evaluate alternative project locations in a broader locale than was identified in the draft EIS, with a corresponding 60 day comment period.

The Soda Mountain Solar Project is proposed to be located in a high resource conflict area less than one mile from the boundary of the Mojave National Preserve, the third largest national park unit in the lower 48 states. It would be one of the closest, if not the closest, industrial scale renewable energy projects to a national park unit in the entire southwestern United States. The proposed project would be approximately 4000 acres with the solar field occupying approximately 2500 acres, and would straddle both north and south sides of Interstate 15 due west of Baker, California.

The project threatens bighorn sheep migration corridors, desert tortoise habitat, the integrity of adjacent wilderness study and the Mojave National Preserve. Moreover, its groundwater pumping could harm water quality and quantity at MC Spring in the Mojave National Preserve, the home of the federally endangered tui chub, one of our most unique and rare desert fish. Finally, the project impairs scenic vistas from the Mojave National Preserve, violating the recently passed San Bernardino County Renewable Energy Ordinance, which states that: "For proposed facilities within two (2) miles of the Mojave National Preserve boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair, views from hiking and backcountry camping area with the National Preserve."

In conclusion, we respectfully request a supplemental EIS that will identify and evaluate other low-resource-conflict locations for the Soda Mountains Solar Project, as well as a 60 day extension for

public comment because of the current proposal's harmful impacts to groundwater and federally endangered species; scenic vistas; bighorn sheep migration corridors and desert tortoise habitat.

Thank you for your time and Consideration.

Sincerely,

Dennis Schramm  
Superintendent, Mojave National Preserve (2006-2011)

Mary Martin  
Superintendent, Mojave National Preserve (1995-2005)

Curt Sauer  
Superintendent, Joshua Tree National Park (2002-2010)

Mark Butler  
Superintendent, Joshua Tree National Park (2010-2014)

J.T. Reynolds  
Superintendent, Death Valley National Park (2001-2009)

Dear Congressman Cook, Bureau of Land Management staff, California Energy Commissioners  
and San Bernardino County Supervisors,

My name is Cody Delnick, and I live in Joshua Tree California. I am a teacher in the  
Calif. Community colleges and a wildlife rehab volunteer for a major wildlife rehab facility in  
Southern California. Most importantly, I am a frequent visitor to the Mojave National Preserve,

the Sub-Mountain Solar project is an atrociously bad idea. It's adverse impacts on the  
surrounding region are numerous and egregious, compromising water resources in  
the region in addition to blocking Bighorn sheep migration corridors in the area. The  
endangered desert tortoise will also be negatively affected, and the nearly extinct  
desert fish known as cui chus could be driven off the brink by this project.

The project's proximity to the Mojave National Preserve will only further imperil  
this sensitive and beautiful region's wildlife and economic contribution to surrounding  
communities, the latter of which brings in over 12 million dollars to the region's economy  
every year. Scenic vistas, recreational opportunities for the preserve's visitors, and the  
Park services management goals will also be damaged.

Please do everything in your power to stop this project! We cannot let our genuine need  
for clean energy alternatives destroy the very planet we are trying to save. Solar panels  
belong exclusively on previously damaged lands, rooftops, brownfields and clean up sites. The  
people of my area need and want a democratized, distributed energy grid that ~~the~~ literally  
empowers households at the source!

Sincerely,

Cody Delnick



Dear Congressman Paul Cook, Bureau of Land  
Management staff, California Energy Commissioners and San  
Bernardino County Supervisors:

My name is Elizabeth Bushong, and I am a high  
school senior at Yucca Valley High School, CA.  
My residence is on the Mesa—very close to several  
project solar locations. I care about this issue not  
only because of the environmental factors, tourism  
conflicts, socio-economic issues, and flaws in the  
project—but because this is my home. Desert  
environments are the most preserved environments in  
the world—but also the most fragile. Miniscule  
differences in water-rain-fall can affect the  
environment—then a massive solar project would ruin  
one of the most intact ecosystems. When I come home  
from college to visit my parents, I don't want to see  
solar fields in front of my house. I want to see a  
protected desert. Please protect my home.

Thank you for your time. This project is  
extremely close to my heart. It attracts my home—but  
all the native species' home as well.

Sincerely,



Elizabeth Bushong

Gregory Harkin Glenn  
PO Box 1853  
Joshua Tree CA 9252

TO: SAN BERNARDINO COUNTY  
BOARD OF SUPERVISORS  
CONGRESSMAN PAUL COOK  
CALIFORNIA ENERGY COMMISSION  
BUREAU OF

I am a business owner, builder and  
designer in Joshua Tree Ca

I AM OPPOSED TO THE SOLAR MOUNTAIN  
Mountain Solar Project for many reasons  
including bad economic reality lack of  
proper planning development and  
infrastructure as well as environmental  
concerns regarding the close proximity  
to the Mohave National Preserve  
for both economic (tourism) and  
ecological reasons.

Please stop this project or reexamine  
the project in the Land Use rules and  
guidelines  
Thank You Gregory Glenn



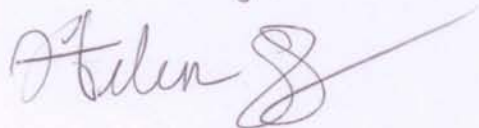
Dear Congressman Paul Cook, Bureau of Land Management Staff,  
California Energy Commissioners, and San Bernardino County Super-  
visors:

My name is Helen Grey. I live in Joshua Tree, and I am a student  
in high school. I want to preserve the Mojave National Preserve  
from being destroyed by solar and renewable energy projects.

I am opposed to the Soda Mountains Solar project because of its  
adverse impacts to the Mojave National Preserve and all of  
its wild and plant life.

The Soda Mountains project would be the closest renewable  
energy project located next to a national park unit. This  
is not okay. The Mojave National Preserve is a powerful  
economic engine, recreational haven, and island of  
biodiversity. I believe there is an environmental imperative  
to protect the Preserve's scenic vistas, visitor experience,  
wildlife habitat, and water Resources.

Sincerely,

A handwritten signature in cursive script that reads "Helen Grey". The signature is fluid and includes a long, sweeping horizontal line that extends to the right.

Helen Grey

Dear congressman Paul Cook, Bureau of Land Management  
Staff, California Energy Commissioners, and San Bernardino  
county Supervisors:

My name is Samantha Johnson, I live in Murango Valley  
and I am a high school student. I love visiting  
the preserves around my desert and want them  
protected from solar energy projects. I find it very  
unfair to destroy natural areas that are very  
important to others and home to a diverse amount  
of wildlife. I greatly oppose the Soda Mountains solar  
project for many reasons: water scarce quality, study  
areas, and destruction of big horn sheep and tortoise  
habitats.

This project is very close to the national park  
and should be constructed nowhere near the  
Mojave National Preserve. It is the third largest  
national park in lower fort-eight states.

Please consider my views on this issue and  
stop this project.

Sincerely,

Samantha Johnson

# FORM LETTERS

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Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

Dear Mr. Childers:

I am writing today to express my strong support for the Soda Mountain Solar project, proposed for San Bernardino County. As you know, solar projects and other renewable energy projects are an integral part of the economy of our region, and provide good-paying jobs for people like me who live in desert communities.

Beyond the jobs and economic boost they bring, though, are the long-term benefits renewable energy offers our state and our country. With the climate crisis on our doorstep and air pollution a constant problem, now is the time to take decisive action and actually do something to improve human health and the environment by producing clean energy.

The Soda Mountain site makes sense in many ways for energy production. There is existing transmission on the site, along with other infrastructure like cell phones towers and a mine. A major freeway runs directly through the site, and a popular OHV area is directly adjacent to it. In a few years, high-speed rail may also pass through the site. It makes sense to place facilities like this where there is existing transmission and existing disturbances, like a major highway.

In the short term, it would be great to see this project hire local workers to build and operate this facility. In the long term, though, the energy produced will go a long way towards getting us all off of dirty energy that could do far greater harm to our environment than a project like Soda Mountain.

Sincerely,

Nathan Mellott

Name

719 Kern ave

Address

Sugarloaf ca, 92386

City, State ZIP

909-273-7440

Phone

vtecracks805@  
Email gmail.com



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

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Sincerely,

Andy Mera  
Name

1216 Bmt Ave.  
Address

Beaumont Ca. 92223  
City, State ZIP

951-315-4030  
Phone

\_\_\_\_\_  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Daniel Novak  
Name

7115 Valley View  
Address

Cas Vegas NV 89118  
City, State ZIP

(702) 468-4882  
Phone

SpidermandanEV433@hotmail.com  
Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Gilbert Ramirez

Name

13921 Woodland Dr

Address

Fontana Ca 92337

City, State ZIP

1909/915-5287

Phone

gr1451857@gmail.com

Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

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Sincerely,

REY CRISOSTOMO SR

Name

3270 MAIN ST #5

Address

RIVERSIDE, CA 92501

City, State ZIP

3059061943

Phone

rcris66@gmail.com

Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Greg Van Wyk  
Name

32875 Ave E  
Address

Yucca Co. 92399  
City, State ZIP

951 440 9467  
Phone

\_\_\_\_\_  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

MARCO MORRISON

Name

22404 Terroce Pinos Dr. #D

Address

Grand Terrace

City, State ZIP

909) 8906309

Phone

Blacklatino@HotMail.com

Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Jeremy Thompson  
Name

7734 7th St  
Address

Phelan CA. 92371  
City, State ZIP

(760) 810-6225  
Phone

JeremyThompson923@yahoo.com  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

MARK S. ORTIZ

Name

1489 NORTH MULBERRY AVE

Address

UPLAND CAL 91786

City, State ZIP

909-331-1144

Phone

\_\_\_\_\_  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

BRUCE STONE

Name

11125 66TH ST

Address

JURUPA VALLEY CA 91752

City, State ZIP

951 843 0418

Phone

N/A

Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

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Sincerely,

Dennis Hill

Name

5827 Cambria Rd

Address

Phelan CA 92371

City, State ZIP

760-596-2995

Phone

\_\_\_\_\_  
Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

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Sincerely,



Name



Address



City, State ZIP



Phone

Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Guillermo Hernandez Jr

Name

6035 Cold Creek Court

Address

FONTANA CA 92336

City, State ZIP

951-840-5353

Phone

Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

*Gilbert Ramirez*  
Gilbert Ramirez

Name

10162 Vine St  
Address

Bloomington CA 92316  
City, State ZIP

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

John Rizzo  
Name

135556 PARADISE BLVD  
Address

PARADISE, CA 92570  
City, State ZIP

951-956-4950  
Phone

JR1455251@gmail.com  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Dennis Amador

Name

10032 Lincoln Ave

Address

Hesperia CA

City, State ZIP

760-552-0141

Phone

\_\_\_\_\_  
Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,



Name

LA Johnson

Address

PO Box 81

City, State ZIP

Pinon Az 86510

Phone

(969) 800 3751

Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Don Koelling

Name

210211 DUNBAR CT.

Address

Moreno Valley Ca 92555

City, State ZIP

951-440-6639

Phone

dkoelling59@gmail.com

Email

Welding CERTS.  
LA City Wire & Stick  
AWS. D1.1, D1.8, D1.5, D1.4 & D1.3.

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Julian R.

Name

854 E "H" ST.

Address

Colton CA 92324

City, State ZIP

760-660-2719

Phone

Email



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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Michael Curtis  
Name

12200 galaxy st  
Address

victorville CA 92392  
City, State ZIP

909 273 0515  
Phone

mike.curtis82@yahoo.com  
Email

(msha trained)

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Joshua Novak

Name

13179 siena circle

Address

Victorville CA 92392

City, State ZIP

(760) 265-3294

Phone

JDNovak84@gmail.com

Email

(Msha trained)

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Steven Probst  
Name

17214 Custer St  
Address

Yucaipa, CA 92399  
City, State ZIP

(909) 583-1104  
Phone

\_\_\_\_\_  
Email



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22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Thomas Koelling

Name

26211 Jun bar CT.

Address

moreno valley CA 92555

City, State ZIP

(951) 230-9534

Phone

TKoelling91@gmail.com

Email

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22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Eric Graham

Name

15479 Memphis DR

Address

Fontana CA 92336

City, State ZIP

909 573 7502

Phone

egraham316@yahoo

Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Gene Connally  
Name

2037 Salinas Ave.  
Address

Mentone Beach, Ca 92359  
City, State ZIP

\_\_\_\_\_  
Phone

902433@gmail.com  
Email



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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Floyd DALTON  
Name

2712 Arrow Hwy. Spc. 26  
Address

LAVERNE CA 91750  
City, State ZIP

909-964-2715  
Phone

ironworkerFloyd@YAHOO.COM  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

David Cox  
Name

9825 Beckley Rd.  
Address

Phelan, CA, 92371  
City, State ZIP

(760) 917-8039  
Phone

Blackmy.melisha@hotmail.com.  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Sergio Contreras  
Name

622 San Carlo Ave  
Address

Colton CA 92324  
City, State ZIP

(562) 499-9366  
Phone

gazcr7@gmail.com  
Email



Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

FERNANDO VALDEZ

Name

15822 ATHOL ST.

Address ~~FERRIS~~

FONTANA, CA. 92333

City, State ZIP

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

Dear Mr. Childers:

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Beyond the jobs and economic boost they bring, though, are the long-term benefits renewable energy offers our state and our country. With the climate crisis on our doorstep and air pollution a constant problem, now is the time to take decisive action and actually do something to improve human health and the environment by producing clean energy.

The Soda Mountain site makes sense in many ways for energy production. There is existing transmission on the site, along with other infrastructure like cell phones towers and a mine. A major freeway runs directly through the site, and a popular OHV area is directly adjacent to it. In a few years, high-speed rail may also pass through the site. It makes sense to place facilities like this where there is existing transmission and existing disturbances, like a major highway.

In the short term, it would be great to see this project hire local workers to build and operate this facility. In the long term, though, the energy produced will go a long way towards getting us all off of dirty energy that could do far greater harm to our environment than a project like Soda Mountain.

Sincerely,

ELEAZAR AGUILAR  
Name

P.O. Box 493  
Address

Whittier, CA 90608  
City, State ZIP

(562) 781-4265  
Phone

alaguilar73@yahoo.com  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 25, 2014

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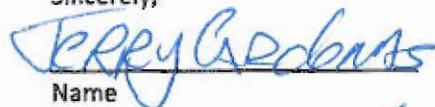
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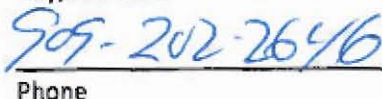
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Name

  
Address

  
City, State ZIP

  
Phone

\_\_\_\_\_  
Email



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Moreno Valley, CA 92553

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Sincerely,

Ruben Beltran  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State ZIP

\_\_\_\_\_  
Phone

Ruben0331@gmail.com  
Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Zachary Gilhouse  
Name

8766 Desert Rock Ln  
Address

Riverside, CA 92508  
City, State ZIP

(951) 675-7444  
Phone

Zgilhouse@hotmail.com  
Email

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22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

CLAYTON Rehn  
Name

43230 Gadsden 185  
Address

Lancaster CA 93534  
City, State ZIP

562) 237-1895  
Phone

CLAYTON Rehn@yahoo.com  
Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,

Jenny Holmes  
Name

1647 W. Lugonia Ave.  
Address

Redlands, CA 92374  
City, State ZIP

(909) 307-8700  
Phone

\_\_\_\_\_  
Email



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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

CARL MENDENHALL

Name

7241 AMESTOY RD

Address

HESPERIA CA 92344

City, State ZIP

760 949 1487

Phone

CARLMENDENHALL@YAHOO.COM

Email

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22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Tiffany Tomasello  
Name

1911 Brockton Ave.  
Address

Riv., CA 92501  
City, State ZIP

951 750-1423  
Phone

\_\_\_\_\_  
Email



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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
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Sincerely,

DAVID SIKORSKI

Name

528 Hibiscus #B212

Address

Redlands CA 92373

City, State ZIP

(909) 835-5668

Phone

N/A

Email

Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
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Sincerely,



Name DUANE E. FRIEL

P.O. Box 463  
Address

TEMECULA, CA. 92593  
City, State ZIP

951-676-1159  
Phone

\_\_\_\_\_  
Email

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22835 Calle San Juan De Los Lagos  
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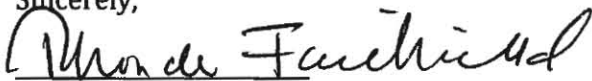
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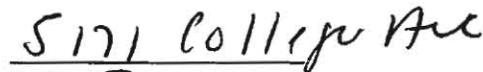
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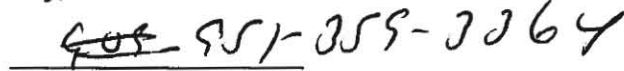
Name



Address



City, State ZIP



Phone

\_\_\_\_\_  
Email

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Please consider my support of the Soda Mountain project.

Sincerely,

BON GRABER  
Name

6055 MEDINA H ST  
Address

FONTANA, CA 92336  
City, State ZIP

909-201 4301  
Phone

JMOTERHEAD@AOL.COM  
Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
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Sincerely,

Mark D. Worley

Name

25355 Lone Acres Rd.

Address

MENICEE CA 92584

City, State ZIP

562 577-4087

Phone

\_\_\_\_\_  
Email



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Sincerely,

Petra Tellez

Name

845 E 89th St

Address

LA, CA 90002

City, State ZIP

(323) 718-3019

Phone

petrasanchez30@me.com

Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
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Sincerely,

Rob Whitaker  
Name

1921 N Sherry LN #79  
Address

S.A. Ca.  
City, State ZIP

714 650 6709  
Phone

Robertwhitaker2828  
Email

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Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

  
Name

2232 E. JACKSON  
Address

ORANGE CA. 92867  
City, State ZIP

(714) 351-2490  
Phone

\_\_\_\_\_  
Email

Jeffery Childers  
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Sincerely,

SCOTT ROBLIER

Name

3550 ANDOVER ST.

Address

CORONA, CA, 92879

City, State ZIP

951-258-7763

Phone

RoblSco1@gmail.com

Email

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Sincerely,

Kristopher Beau Nelson  
Name

23406 Cloudview RD.  
Address

Crestline, CA, 92325  
City, State ZIP

909-589-0594  
Phone

N/A  
Email



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22835 Calle San Juan De Los Lagos  
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Sincerely,

Keith Aker

Name

13335 Chaparral Rd

Address

Phelan Ca 92371

City, State ZIP

760 -868- 8290

Phone

Keith Aker@gmail.com

Email



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22835 Calle San Juan De Los Lagos  
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Sincerely,

Robert Rhone

Name

13956 Ramhurst #11

Address

LA MIRADA CA 90638

City, State ZIP

626 975 9530

Phone

RhoneBob@yahoo.com

Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

February 26, 2014

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Please consider my support of the Soda Mountain project.

Sincerely,

 Jim Jovanat

Name

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jovvie56@hotmail.com

Email

Jeffery Childers  
Soda Mountain Solar Project Manager  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

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Sincerely,

Mike Davidson

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Phone

\_\_\_\_\_

Email

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Soda Mountain Solar Project Manager  
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Sincerely,

Michael Mendenhall

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\_\_\_\_\_  
Email

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Soda Mountain Solar Project Manager  
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Sincerely,

Ben CORBIN

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Email

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Sincerely,

Jeremy Gottschall

Name

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Anaheim CA 92808

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DMGottschall@yahoo.com

Email



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Sincerely,

William Hudson

Name

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WILLIAM HUDSON @ AOL . COM

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Moreno Valley, CA 92553

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Sincerely,



Name

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Email

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Soda Mountain Solar Project Manager  
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Moreno Valley, CA 92553

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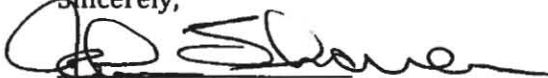
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Sincerely,



Name

33640 Willow Haven Lane

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\_\_\_\_\_  
Email

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Sincerely,

Thomas Ybarra.

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\_\_\_\_\_  
Email

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Sincerely,

Robert Scott

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Sincerely,

Robert Spinney  
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DebNR061@YAHOO.COM  
Email



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Sincerely,

David Kayl

Name

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Sincerely,

DAVE SHARP

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Email

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Sincerely,

Stacia Bone

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\_\_\_\_\_  
Email